

MONTANA

JAN. FEB. 1977
SIXTY CENTS



OUTDOORS





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THE COVER: Wild rose, a desirable plant by most definitions, is one of many beneficial species inadvertently "controlled" under Montana's weed control law. See page 2 for Noel Rosetta's detailed discussion of how and why weed control has failed and what can be done to improve it. Front cover photo: Danny On. This is your last chance to receive our 1977 wildlife calendar. The raccoon is only one of six wildlife scenes on this year's calendar.

Back cover photo:
Jerry Manley.

MONTANA OUTDOORS

Jan./Feb. 1977, Vol. 8, No. 1

contents

2 The Weed Control Follies

This outmoded law harms beneficial vegetation, wastes tax dollars and poses a possible threat to human health. by Noel Rosetta

11 The Catchall

To whom does the Absaroka-Beartooth right-of-way belong?, plus other items

19 The Land and Water Conservation Fund

Money is available for acquisition and development of public outdoor recreation areas and facilities. A department project report by Ron Aasheim

22 Montana's New Water Law

Is it working for Montana's fish and wildlife? by Liter Spence

27 Update

New information on Flathead oil and gas leases, status of the Flathead and Missouri rivers, the Elkhorns, Ski Yellowstone and nongame management legislation

30 Dear F&G

35 The Whitefish

This worthwhile adversary offers year-round angling challenge. by Robert Rothweiler

38 A Chance for Everybody to Win

The Rattlesnake—a rugged beautiful area at Missoula's back door. by Don Schwennesen

44 Environmental Blackmail

Loss of jobs because of pollution control regulations is a myth. by Glenn Oakley

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a
small
tribute

a livable environment for WILDLIFE is a quality environment for MAN

Protection for the last major free-flowing segment of the Missouri River, the 149-mile stretch in Montana from Fort Benton to the Fred Robinson Bridge, is now reality. After considerable delay over the past year or so, Sen. Lee Metcalf's S1506 finally received Congressional approval on Sept. 28 and the President's signature on Oct. 13.

It's difficult to express what this final culmination of many years of hard work by numerous individuals and organizations really means, either to the department or to those who fought so hard. Continued life for the Missouri is now guaranteed and the river in all its free-flowing splendor will remain a viable, dynamic resource for future generations to appreciate and enjoy.

Fish and game commissions, past and current employees and a host of others did their part through the years. But more important, private individuals and organizations time after time voiced their opinions and their concerns over the Missouri's fate and future. Without exception, these people gave untiringly of their time and effort. To them must go a great deal of credit for the final Congressional mandate to preserve Montana's own "last of the wild Missouri."

It's a small enough tribute, but we would like to somehow recognize these people and organizations for their ceaseless efforts. Of course, the list is lengthy and we are only human—many, many names will be omitted, but not on purpose.

First and perhaps most important, mere words will never adequately express the appreciation and deep feeling of gratitude we all feel toward Sen. Metcalf. His persistent efforts on the Missouri's behalf are now legend, but we will all remember his monumental contribution as the river winds its way into the future. The efforts of his aide, Teddy Roe, also deserve special mention. Possibly a brief note to the senator from those who desire to express their thanks would somehow tell him how we feel. Naturally, when the roll call of Congressional support is called, it must also include the names of Mike Mansfield and John Melcher.

Next on the list must come a few of the individuals, but by no means all, who wrote letters, attended hearings or otherwise did their part. People like Steve and John Gilpatrick, ranchers near Hilger; Don Aldrich and John Harris of Missoula; Ray and Dorothy Nitz, Gary Stuker, Van Barron and many other members of the Hill County Wildlife Assn. in Havre; Lyle Leeds, Havre radio station owner and past president of the Montana Chamber of Commerce; Lou Hagener and Emmett Stallcop of Havre; Tom and Les Hartford, R. L. "Hap" Kramlich, Craig Flentie and other members of the Lewistown Rod and Gun Club; Jack Lepley, Bob Singer and others in the Fort Benton area; Gail Stensland, formerly of Fort Benton; Jack Severns, Margaret Adams, Harry Mitchell and others from Great Falls; Bill Cunningham of Helena; Phil and Robin Tawney, formerly of Helena; Liz and Eldon Smith and Perry Nelson of Bozeman; Gay Easton of Laurel; Ann Sutton of Friends of the Earth and Arch Erskine (deceased) of Missoula. Collectively, the Montana Wildlife Federation and its members took the lead years ago for the Missouri, but the Helena-based Environmental Information Center, Sierra Club, Audubon Society, The Wilderness Society and others also deserve thanks.

In the Dept. of Fish and Game, a great many individuals played a role and did their part to preserve the river. Many of these people remained in the background and most probably would prefer to remain unnamed. But their many articles, letters and presentations certainly must be recognized as an important contribution to the final outcome of Congressional action.

Past fish and game commissions and commissioners also deserve credit, but the efforts of one commissioner, Joe Klabunde of Havre—both as an

(continued on p. 18)

The Weed Control Follies

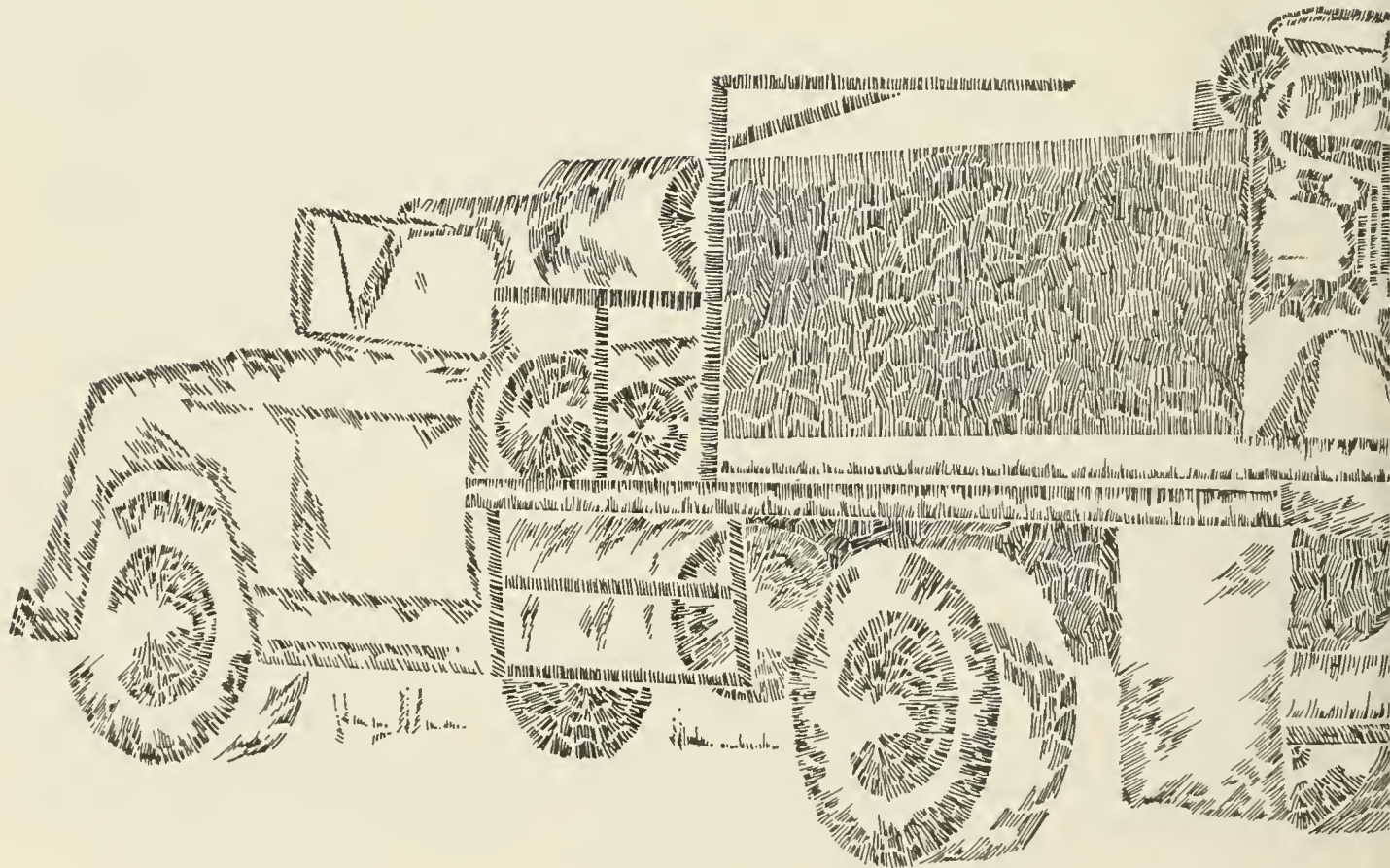
by Noel Rosetta

illustrated by Donita Sexton

Anybody looking for a good fight can always find one by trying to defend a weed. True, some weeds compete with agricultural crops, may poison livestock and establish on range lands. Some even have thorns or cause hay fever. But at the same time, some of these plants hold the soil in place while more desirable plants move in and provide forage and cover for wildlife, food for livestock or scenic vistas for recreationists.

Nonetheless, the past 25 years has seen western states pull out all stops to "control" undesirable plants. This has (1) reduced wildlife habitat, (2) killed beneficial and edible plants, (3) replaced scenic roadsides with blankets of wilted and dying vegetation or solid growths of even more undesirable plants, (4) in certain circumstances, encouraged the spread of undesirable plants and (5) cut deeply into the taxpayers' pockets. Worse, it hasn't worked. After spending millions of dollars and pouring thousands of tons of poisons along rights-of-way, over public range lands, on national forests and over just about every corner of the West, there are more weeds now than there ever were.

For 28 years, I worked for the Forest Service (FS) and the Bureau of Land Management (BLM) as a forester and range manager. Since my retirement from the federal government, I've done consulting work in range ecology and analysis. I've also closely watched—often with dismay—the local weed control



district's attempts to control weeds to the detriment of wildlife, people and beneficial plants.

Bighorn Basin, Wyo.—The herbicide 2, 4-D was sprayed on halogeton, an annual, poisonous plant. Killed both halogeton and salt sage, the latter a beneficial forage plant for sheep. Halogeton came in more thickly than ever the following year, after competition from salt sage was eliminated.

near York, Mont.—Dalmation toadflax sprayed with herbicides to prevent its spread. Spray killed skunkbrush and other beneficial plants. The toadflax moved in under the dead skunkbrush plants. It spread rapidly despite a number of herbicide applications.

Gallatin National Forest, north of Bozeman, Mont.—From 1952-75, about 15-20 acres of leafy spurge was treated with different herbicides including 2, 4-D; 2, 4, 5-T, Tordon and Banvel at an estimated cost of \$8,000. In 1975, leafy spurge was doing well. It is one of the most difficult to "control." The Helena National Forest has been spraying one area of leafy spurge since 1957 with about the same results.

Sanders County, near Weeksville Creek, west of Plains, Mont.—In the early 1970s county crews sprayed knapweed on a cattle pasture. Today, the knapweed is doing very well.

southwest of fairgrounds, Helena, Mont.—Spray crews treated Canadian thistle with her-

bicides. Killed Russian olive trees and wild rosebushes. Canadian thistle coming up under the dead rosebushes.

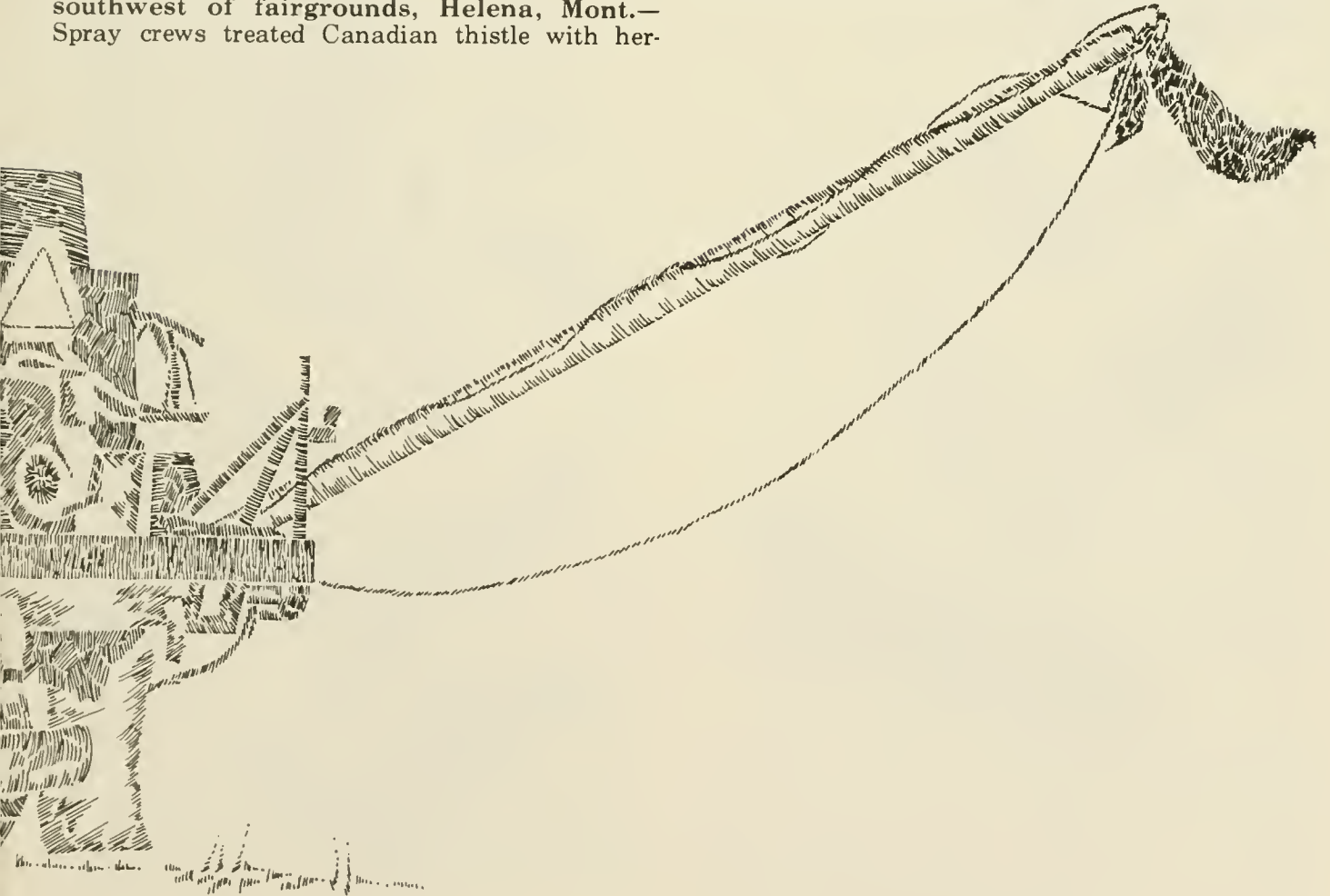
Elkhorn Springs area, west of Townsend, Mont.—Sagebrush treated three or four times since 1950 with herbicides, mostly aerial application. In 1976, sagebrush had recovered.

One problem is defining a "weed." Biologists, range managers, foresters, researchers, farmers, ranchers and county weed control personnel all have different interpretations.

In simple terms, Webster tells us a weed is a "plant of no value." But one man's weed may be another man's food or drink. Unfortunately, many beneficial plants have been caught in this name-calling game. Do plants that feed and house wildlife, hold all-important topsoil in place, feed domestic stock, bear fruit for human consumption, provide nectar for honeybees or beautify roadsides have "no value"?

Indeed, chokecherry, wild rose, wild asparagus, sunflower, willow, blackberry, sagebrush, alder, lodgepole pine and many native wildflowers, wildlife forage and other beneficial plants have suffered in attempts to rid the West of "noxious weeds."

The reason, of course, is an unreasonable law that has been on Montana law books since 1939. It has been amended several times, but not improved sub-



stantially. And now the Montana Legislature will try again. Will the law be improved or worsened?

Early explorers found few weed infestations, as we know them today. The unbroken prairies and deep forests formed ecological barriers of climax vegetation (the final stage in plant development, in which the plants are capable of renewing themselves indefinitely) that few weeds could invade. Within these stable, diversified ecosystems were prairie dog towns, concentrations of buffalo, old burns, abandoned stream channels and other disturbed or vulnerable areas. Here, a few weeds persisted.

Opening the West with plow and livestock soon broke up these barriers. The drought of the 1930s drove thousands of homesteaders off the land. In eastern Montana alone, 5 million acres was abandoned. As the homesteaders left, the weeds moved in—*fortunately*, because they anchored the soil and kept most of it from blowing or washing away.

In other cases, the weeds that pioneered on the abandoned soil kept livestock from starving. Native bunchgrasses and edible plants were often protected from hungry livestock by sagebrush and prickly

pear. Then, when the rains finally came, the native plants reseeded and spread. Russian thistle caught the snow, providing more moisture for new seedlings.

And wildlife prospered. The weeds created suitable habitat for many game and nongame species. After this invasion of weeds onto the abandoned homesteads, wildlife populations began to increase.

In the 1930s, E. W. Nelson, former professor in the School of Forestry at the University of Montana, found that plowed and abandoned land took 30-70 years to return to a state of climax vegetation (in this case, short grass prairie). In the short grass prairie, grasses and other beneficial plants made up about 80% of the vegetative cover. After abandonment, annual and perennial weeds made up about 86% of the cover for the first five years. This was a boon for wildlife, but it made many Montanans mad.

Then, early lawmakers passed the Montana Weed Control Act of 1939. And the war was on. The creed was "Wipe Out Weeds."

Some of the "enemy" plants represented formidable foes. They were aggressive and tenacious.



common tansy



Canada thistle

Some had root systems that went down 20 feet for nutrients denied lesser plants. They easily invaded newly disturbed lands. And there were plenty of newly disturbed lands, as post-World War II demands for more housing, fiber and food were realized. This, along with more irrigation projects, clearcuts, roads, subdivisions and other developments, left much soil bare of vegetation and an easy place for weeds to establish. It was a big battleground.

Most of the worst weeds were foreigners, migrants from overseas or across the border. Canadian thistle crept along irrigation systems. Leafy spurge took over entire fields. Russian knapweed moved into heavily grazed areas and along highways. Dalmatian toadflax looked beautiful in gardens until it escaped to the countryside and became a "noxious weed." In fact, most "noxious" plants were introduced by agricultural interests looking for "greener pastures"—plants which provided better crops and forage. One can almost trace the winter sheep grounds and the stock drive paths in desert ranges of Utah, Wyoming and Idaho by the sudden, explosive growth of *Halogeton glomeratus*.

At times, it must have seemed hopeless to farmers and ranchers. As they removed the barriers of desirable plants, weeds could easily move in. Since the first garden, there has been a vision of a weed-free Utopia. But weed control in those days was hard work, to say the least. And it was often then—as it is now—a losing battle.

Then, a few chemists—who also idolized a weed-free paradise—invented some new weapons—2, 4-D, 2, 4, 5-T and other herbicides. Before, classification as a "noxious weed" had little consequence. Now, with the blanket application (broadcast spraying) of herbicides, all broad-leaved plants were in a sense "classified" as "noxious weeds," since many nontarget plants were also affected. In fact, the desirable and nontarget plants often suffered more than the target species.

"Noxious weeds" named in Montana's weed law include wild morning glory (bindweed), Canada thistle, whitetop, leafy spurge and Russian knapweed. But naming additional "noxious weeds" is hardly difficult.

The law allows boards of county commissioners to name virtually *any* plant a "noxious weed" after consulting the county agent. And they have. Such plants as baby's breath, ground cherry, wild oats, musk thistle and sow thistle—all important to wildlife—have shown up on the list of villains. Joyce Kilmer once wrote, "Only God can make a tree" . . . Well, in Montana it can be declared a "noxious weed."

The present statewide definition of "noxious weed" includes Canada thistle, Dalmatian toadflax, leafy spurge, morning glory (bindweed) and whitetop. Canada thistle is used extensively by elk, moose, mule deer, antelope and Hungarian partridge. White-tailed deer, antelope and Huns also use morning glory.

Montana Fish and Game Commission Policy On Pesticides

Considering all the disturbing facets involved in massive spraying or dusting of pesticides, the Fish and Game Commission adopted (May 1964) the following policy. To:

(1) oppose mass aerial spraying of public lands in Montana with any of the chlorinated hydrocarbon chemicals.

(2) protest the mass aerial application of other pesticides, including herbicides, on public lands in Montana until the users conduct intensive studies on limited areas to determine the chemicals' effectiveness in controlling the target organisms and also the effect on other fauna and flora and to inform the public of their findings.

(3) request that federal agencies re-evaluate their policies and concept of multiple use of public lands in relation to mass use of pesticides, especially weedicides (herbicides).

(4) make information relative to the use and total effects of pesticides, including herbicides, available to the public.

A new weed law which will be proposed to the Montana Legislature may increase the number of "noxious weeds" to 12, adding the following:

- common tansy,
- common toadflax,
- halogeton,
- musk thistle—used for cover by pheasants and Huns,
- perennial sow thistle—used as food by antelope, blue grouse, sharp-tailed grouse, sage grouse and pheasant; used as cover by pheasants,
- Russian knapweed—food for elk and white-tailed deer and
- St. John's-wort—food for mule deer.

These are only the *main* game species utilizing "noxious weeds." A wide array of nongame animals also use the vegetation for food and cover.

I remember one county commissioner who was criticized for allowing the unlawful spraying of yellow sweetclover, a highly valuable species for wildlife. He replied, "Okay, we'll put it on the noxious weed list."

The big problem is broadcast spraying where *all* plants are covered with the "miracle" herbicides, not simply the target plants. The weed war had little environmental overtone until the advent of chemical warfare.

Chemical companies remained silent on the potential of their new herbicides. Instead, they sent money to agricultural colleges to find more effective ways to use herbicides. Articles in farm and ranch journals told how to kill weeds with herbicides. Company ads boasted of profits to be made from chemical weed control. Even the government helped, as the U.S. Dept. of Agriculture urged extension agents and farm employes to promote the new

concept in weed control.

It worked. In the 1950s, the sickly sweet smell of 2, 4-D as well as other herbicides was prevalent on the fields, ranges, forests, along irrigation canals and roadways—just about everywhere.

Farmers hired pilots to fly airplanes which sprayed a thick blanket of herbicides over entire fields. The Bureau of Reclamation and ditch companies sprayed along irrigation canals—even pouring herbicides into the water. The Corps of Engineers used herbicides to help control water hyacinth, a water weed in the South. The FS and BLM spread them over western range lands to kill sagebrush. Timber companies and the FS used them to “control” hardwoods which were considered “weeds” in pine and fir stands. County weed crews sprayed the rights-of-way. Few areas escaped. Never has there been such a massive and coordinated attack on vegetation.

But the philosophy might be changing. A 1968 report by the Interagency Ad Hoc Committee on Preventive Weed Control noted, “We also need to improve the effectiveness of preventive methods of control so that the excessive use of chemical and

nonchemical methods of control can be avoided.” (The committee was appointed by joint action of the weed committees of the U.S. Depts. of Agriculture and the Interior.) And a recent environmental impact statement by the FS said, “*Continued recurrent use of herbicides to treat symptoms is biologically and professionally unjustified*” (emphasis theirs).

Montana’s law makes it a crime to wilfully permit “noxious weeds” to go to seed on *any* private, state or federal land. For example, the Lewis and Clark County Weed Board sprayed the weeds around the *Montana Outdoors* offices. The Dept. of Fish and Game was powerless to stop it.

The law also contradicts itself. It barricades the state and counties with embargoes against conveying “noxious weed” seeds in crop seed, hay or other farm products or machinery. Montana allows nine “noxious weed” seeds per pound of imported grain, but other states like Wyoming and Nebraska permit no noxious weed seeds in grain transported into the state.

The law has an almost callous disregard for personal privacy and property rights. It permits inspection of weedy premises without a warrant. (A

Herbicides And Wildlife

Studies conducted under the guidance of Montana State University have shown that many “weeds” (particularly forbs and woody plants) supply food and cover necessary for the existence of many of Montana’s game animals. Field studies have produced the following observations:

- elk in Missouri River Breaks: forbs—75% of total summer diet.
- elk in Sun River area: forbs—13% of winter diet; woody plants—12%, 9 species utilized.
- mule deer in Little Belt Mountains: forbs—50 species utilized, comprised 20% of winter diet; woody plants—31 species utilized, 78% of winter diet.
- white-tailed deer in Missouri River Breaks: forbs—28 species utilized; woody plants—19 species. Forbs and woody plants made up 94% of whitetail diet in summer, fall and winter.
- white-tailed deer in Snowy Mountains: forbs—46% of year-round diet; woody plants—41-54%.
- moose in Gravelly Mountains: forbs—9 species utilized, comprised up to 9% of fall and winter diet and 70% of summer diet; woody plants—15 species utilized, comprised 91-100% of fall and winter diet.
- mountain sheep in Sun River area: forbs—10 species utilized; woody plants—16 species utilized.

The importance of sagebrush and sagebrush communities to sage grouse, antelope and other wildlife has already been discussed in *Montana Outdoors*. (See “An Inseparable Alliance” by Tom Mussehl in the March/April 1971 issue and “Sage Grouse: an Endangered Species?” by Rick Wallestad in the Sept./Oct. 1976 magazine.) Removal of these communities could seriously

deplete those wildlife species dependent on them.

Studies of the ring-necked pheasant and Hungarian partridge show they require undisturbed vegetative areas for nesting, roosting and escape from predators and bad weather. Pheasants and partridge utilize waste grain and “weed” seeds for food. In the Yellowstone and Bighorn River valleys, pheasants under study consumed seeds of 77 “weed” species. Some of these included ragweed, pigweed, wild oat, thistle, fanweed and bristle grass. Hungarian partridge in Teton County ate seeds and leaves of 17 forb species. Partridge were observed using Canada, musk and sow thistles as protective cover from predators. These cover and food requirements are satisfied in crop lands, borrow pits, along irrigation ditches and stream courses, field edges, shelter belts and in many agriculturally idle areas. In most cases, these areas are the targets for mechanical or chemical weed control.

Pheasant numbers have already declined noticeably in many of Montana’s irrigation projects, primarily as a result of intensive agricultural practices. Further intensification, including removal of remaining idle areas, may cause even further decreases.

Obviously, use of the term “weed” depends solely on the individual or group of individuals viewing a particular plant. Once a plant is labeled “noxious,” Montana law states that it is a “common nuisance.” Is it a nuisance to the elk, deer, antelope, sage grouse or pheasant? Is it a nuisance to the farmer, rancher, sportsman or traveler who enjoys seeing the game whose existence depends on vegetation?—*John Weigand*

county sheriff needs a search warrant to check private property for marijuana.) It condones destruction of crops where "noxious weed" seeds are a "menace." And it allows weed crews to control (spray herbicides) on any land even if the landowner wishes to preserve wildlife habitat.

The law seems to imply that chemicals can wipe out "noxious weeds" and that these plants can be destroyed. At the same time, it discourages ecological solutions to weed problems such as maintenance of effective plant barriers through good land management.

Perhaps 25 million acres of Montana is susceptible to weed invasion because of disturbance due to cultivation, logging, overgrazing, road maintenance and construction, subdivision development and mining operations. Of this, more than 1 million acres has "noxious weeds." Thousands of seeds are lying fallow on nearly every acre—some with surprisingly long lives. Livestock, wildlife, vehicles, farm machinery and people all spread weed seeds. Wind and water annually help harvest, transport and plant weed seeds. Indeed, controlling weeds with chemicals may be a task beyond mortal men. Trying to do so is tantamount to legislating against wind, free-moving water, hail and other natural agricultural problems.

But the law says the counties *must* do it. And at the same time, they *must* preserve beneficial vegetation and wildlife habitat. Is it possible? My experiences with weed control in Lewis and Clark County make me feel it is probably impossible and certainly impractical.

Here, a weed board gives direction to a weed supervisor who handles the day-by-day operations. The Lewis and Clark County program is based almost entirely on chemicals. Summer employees—mostly high school and college students—mix the herbicides and operate the tanker trucks. The tanker trucks have spray arms or booms which broadcast a 10- to 12-foot swath of chemicals along about 1,100 miles of country roads. About 300,000-400,000 gallons of herbicide solution, consisting of 2,4-D plus 2,4,5-T and water, is regularly distributed per year.

This program has grown much more than most government projects. In 1965, the weed district had two or three employees and one tanker unit. Now, it has 19 employees and six tanker trucks costing from \$7,000-\$8,000 each. The annual budget has blossomed from \$11,758 to \$73,381 (1977 budget estimate). Remember, 55 other counties in Montana have similar weed control programs.

The Lewis and Clark County controllers have had some problems, such as:

- The drift from spray causes annual damage to gardens (at least two in 1976) and kills many shrubs and trees. Spraying has been conducted in winds of 10-20 miles per hour.
- Trout streams and lakes have been sprayed as trucks pass near water. Examples are Canyon Creek, north of Helena, and Hauser Reservoir on the Missouri River. (The herbicide 2,4,5-T is toxic to fish; 2, 4-D may be.)



common toadflax

- Below Flesher Pass, near Lincoln, lodgepole pines 10-20 years old were wiped out along several hundred yards of right-of-way.
- Beneficial plants such as sweetclover, wild rose, skunkbrush, vetch, fringed sage and snowberry are also killed in the spraying process. None of these is classified as a "noxious weed"; most of them provide food and cover for wildlife.
- People along the spray routes have had to flag down tanker trailers to keep the weed crews from spraying lawns and shrubbery. One irate landowner reported that a crew sprayed his dog lying on the lawn.
- Weed crews spray 2,4,5-T and other poisons within the Helena city limits even though it angers residents.
- In 1975 and 1976, some road edges were first sprayed and then mowed a few days later resulting in a double expenditure of tax dollars.
- The Hauser Lake Recreation Area was sprayed. Roses, sweetclover and skunkbrush—beneficial plants for wildlife—were the main victims.
- State and county law requires that cuts and fills along roads be sodded to protect the slopes against erosion and invasion of "noxious weeds." Near

Canyon Creek, Lewis and Clark crews killed several miles of sweetclover and other plants growing well on steep slopes along the roadway. The cost of replacing this vegetation in accordance with state standards would run \$1,000-3,000 per mile.

These are only a few examples. More damage and waste probably go unreported.

How have such operations affected wildlife? Severely.

Montana weed law states, "They [the supervisors] shall take particular precautions to control the noxious weeds while preserving beneficial plants and wildlife habitat." Since beneficial plants and wildlife habitat *definitely cannot* be preserved while trying to control noxious weeds with broadcast spray operations, Lewis and Clark County officials (and probably many others) have been breaking the law for years.

David Armstrong, botanist for the State Dept. of Agriculture, agrees. He was recently quoted in a news story as saying, "Broadcast spraying is a waste of time and money . . . and [is] probably illegal."

The FS and State Dept. of Highways require selective spraying along their road edges. The

Cascade County Weed District uses selective spraying. It works, and costs about one-fourth as much per acre as Lewis and Clark County's operation. Nonetheless, Lewis and Clark County defends its policy. Or as one county commissioner correctly put it, "We are only the point of the needle. They are all spraying the same in other Montana counties and other states."

Lewis and Clark County hardly has a corner on the weed control follies:

- In 1975, weed crews destroyed a 10-foot swath of vegetation, mostly sweetclover (a highly desirable plant), along Interstate 90 on both sides of Drummond with a soil sterilant. In 1976, cheat grass, an undesirable plant, took over in force. Cheat grass is highly flammable and thus unsuited for road edges and many range managers consider it to be "noxious."
- The remainder of the I-90 right-of-way was sprayed with herbicides. Some "noxious weeds" were present, but nothing to compare with the sizable acreages of knapweed, leafy spurge, whitetop and toadflax outside the right-of-way. These areas weren't sprayed.

Is It Worth It?

The most common herbicides used for "control" of Montana's weeds have been 2, 4-D and 2, 4, 5-T. In recent experiments, one-fifth of a bluegill population died within eight days of exposure to 2, 4-D. Spawning delays up to two weeks after 2, 4-D exposure were noted. Total loss of fingerling bluegills exposed to 2, 4-D was also observed.

Application of 2, 4-D has also been associated with widespread outbreaks of aphids. The herbicide reduces the population of the aphid's predator, the ladybird beetle. The aphids may then be treated with insecticides that are harmful to wildlife.

The herbicide 2, 4, 5-T is used for killing woody plants that provide food and shelter for big game and game birds. Studies by the U.S. Food and Drug Administration, Dow Chemical Co. and the National Institute of Environmental Health Services confirmed that impurities (dioxins) in 2, 4-D and 2, 4, 5-T are teratogenic (capable of producing birth defects). Congenital defects in unborn animals included missing or abnormally small eyes, absence of the lower jaw, cleft palate, missing limbs, skull and other skeletal defects. Increased incidence of fetal mortality was also attributed to these impurities.

Use of 2, 4, 5-T has been banned on lands managed by the U.S. Dept. of the Interior and the Montana Dept. of Fish and Game. Recommendations from the National Advisory Panel on Teratogenicity of Pesticides included: "The use of currently registered pesticides to which humans are exposed and which are found to be teratogenic by suitable test procedures in one or more mammalian species should be immediately restricted to

prevent risk of human exposure. Such pesticides, in current use, include Captan; Carbaryl; the butyl, isopropyl, and isooctyl esters of 2, 4-D; Folpet; mercurials; PCNB, and 2, 4, 5-T. The teratogenicity of 2, 4-D, and other salts and esters of both 2, 4-D and 2, 4, 5-T and that of IPC, should be investigated further."

As a result of these recommendations, the Montana Dept. of Fish and Game is watching closely for any further rulings regarding restrictions on use of 2, 4-D and other pesticides. In the meantime, private land managers may still apply 2, 4-D, 2, 4, 5-T and other potential environmental contaminants. They may even obtain financial assistance to do so through the U.S. Dept. of Agriculture.

Herbicides which are known to have toxic effects on wildlife include:

- aromatic solvents (naphthas): toxic to waterfowl and fish;
- chlorinated benzenes: toxic to fish, long-lived chemically;
- dinitro compounds: highly toxic to warm-blooded animals and fish;
- endothal: highly toxic to mammals, and
- sodium arsenite: highly toxic to warm-blooded animals.

Effects of many herbicides on wildlife are still unstudied. When directions for application include precautions regarding delayed crop growing, prohibition of grazing by domestic livestock or avoidance of chemical residues in grain or meat, the effects on wildlife (which cannot be excluded from using treated land) become highly suspect.—

John Weigand



- In both Ravalli and Flathead counties, several farmers have complained of substantial damage to potato crops caused by county spray operations.

A happy—and rare—exception is U.S. 287 between West Yellowstone and near the Cardwell turnoff in southwestern Montana. The substantial number of tourists using this scenic highway see a variety of grasses and wildflowers growing free of annual chemical warfare. Why aren't tourists—and Montanans—treated to a similar view on other Montana roadways? The tourism/travel business is, after all, Montana's third largest industry.

Meanwhile, wildlife populations—also a source of considerable economic benefit for Montana—have suffered, just like vegetation annually does along almost every roadway. The standard response to such statements is often, "Prove it."

Several fish kills such as those in the Post Creek drainage and the Ninepipe Reservoir areas of the Flathead Valley have been documented. However, damage to terrestrial wildlife is more difficult to determine.

In some rural areas, roadside vegetation is a major part of the area's wildlife habitat. For example, in South Dakota, rights-of-way provide 30% of the nesting cover. And when this is sprayed, it obviously

removes habitat and reduces wildlife populations.

The decline of the pheasant in Montana, South Dakota and other states likely reflects, in part, the expanded use of herbicides. Likewise, lower sage grouse numbers can be attributed to sagebrush control. (See related examples elsewhere in this article.)

The impact on songbirds and other nongame wildlife has less documentation. But the impact has probably been serious in many instances.

This impact represents loss of habitat. The physiological impact of herbicides on reproduction and other vital functions is even less known. Only the tip of the wildlife-herbicide problem was exposed in an earlier article (*Montana Outdoors*, May/June 1971, pp. 31-35). Department game and fish biologists are extremely apprehensive about the future of Montana's wildlife if the full potential of Montana's

What You Can Do

The weed control program will be an active issue in the 1977 Montana Legislature. Show your concern for wildlife habitat, fiscal responsibility and human health.

weed law is applied. There is also the real possibility of harmful effects on human health.

Beside all this, it's a waste of money. "To the speaker's knowledge," Dr. John Harris, wildlife extension biologist from the University of Montana, said at a weed control training session sponsored by the Montana Dept. of Health and Environmental Sciences (Oct. 12, 1972), "no attempts at wide-scale, long-range removal of persistent, pioneering and dominant plant species have ever been successful. Therefore 'eradication' is at best temporary suspension."

Today, counties spend about \$2 million annually on weed control. Lewis and Clark County alone has spent \$523,000 since 1965. The other 55 counties have spent from \$15-20 million in the same time period.

Obviously, most—if not all—of these tax dollars are wasted. But still, weed control programs are religiously defended.

Weed crews spend almost all their time spraying the rights-of-way. Probably less than 25,000 acres of "noxious weeds" is scattered here. Outside the rights-of-way, more than 1 million acres of "noxious weeds" thrives. Armstrong believes the weeds are spreading at a rate of about 10% or 100,000 acres per year.

Could new legislation curb the spread of weeds? Perhaps. But it's very unlikely that merely expanding the present system would accomplish anything beside a bigger waste of tax dollars. Legislation that dictates the new logic of creating ecological barriers of diverse, climax vegetation is the best long-term

answer. But this sort of thinking will have a tough go in the legislatures.

The Montana Legislature now has another chance to improve the weed law. Hopefully the lawmakers can pass legislation that (1) really protects wildlife habitat and desirable plants, (2) invites full citizen participation in the planning and operation of weed control programs, (3) assures that overseeing boards contain full representation from the wildlife profession, (4) protects civil liberties, (5) minimizes the use of chemicals, (6) takes every precaution with human health, (7) makes sure weed control supervisors have some training in plant and animal ecology and (8) emphasizes creating barriers of beneficial vegetation to prevent spread of weeds.

The present weed program suffers from great expectations not backed by results. We must be careful that new proposals don't suffer from greater expectations.

The weed control follies reach into every remote corner of Montana and other western states. They touch every person by destroying wildlife habitat; damaging honey production, tree nurseries, gardens and trees; wasting tax money, and possibly endangering human health. At the same time, people can do precious little about it.

We frequently conclude with the old adage, "There ought'a be a law." Well this time there is a law. It's about as effective in controlling weeds as gun control has been in preventing crime. Maybe this time there ought'a *not* be a law. ■



THE CATCHALL

Absaroka-Beartooth:

Whose Right-Of-Way?

Searching through Sweet Grass County records in 1974, Evans White, a county employe, stumbled upon an 81-year-old document which has subsequently pitted environmentalists against 4-wheel drivers and the county commissioners of Sweet Grass and Park counties, with the Forest Service in between.

White found records of a petition for a county road right-of-way, established in 1893. The records state a road was petitioned for and road work done from the now abandoned mining town of Independence to Cooke City. The county commissioners claim they have jurisdiction over the road. The 15-mile alleged right-of-way runs through a five-mile "corridor" which connects the Absaroka and Beartooth Primitive areas. After overwhelming

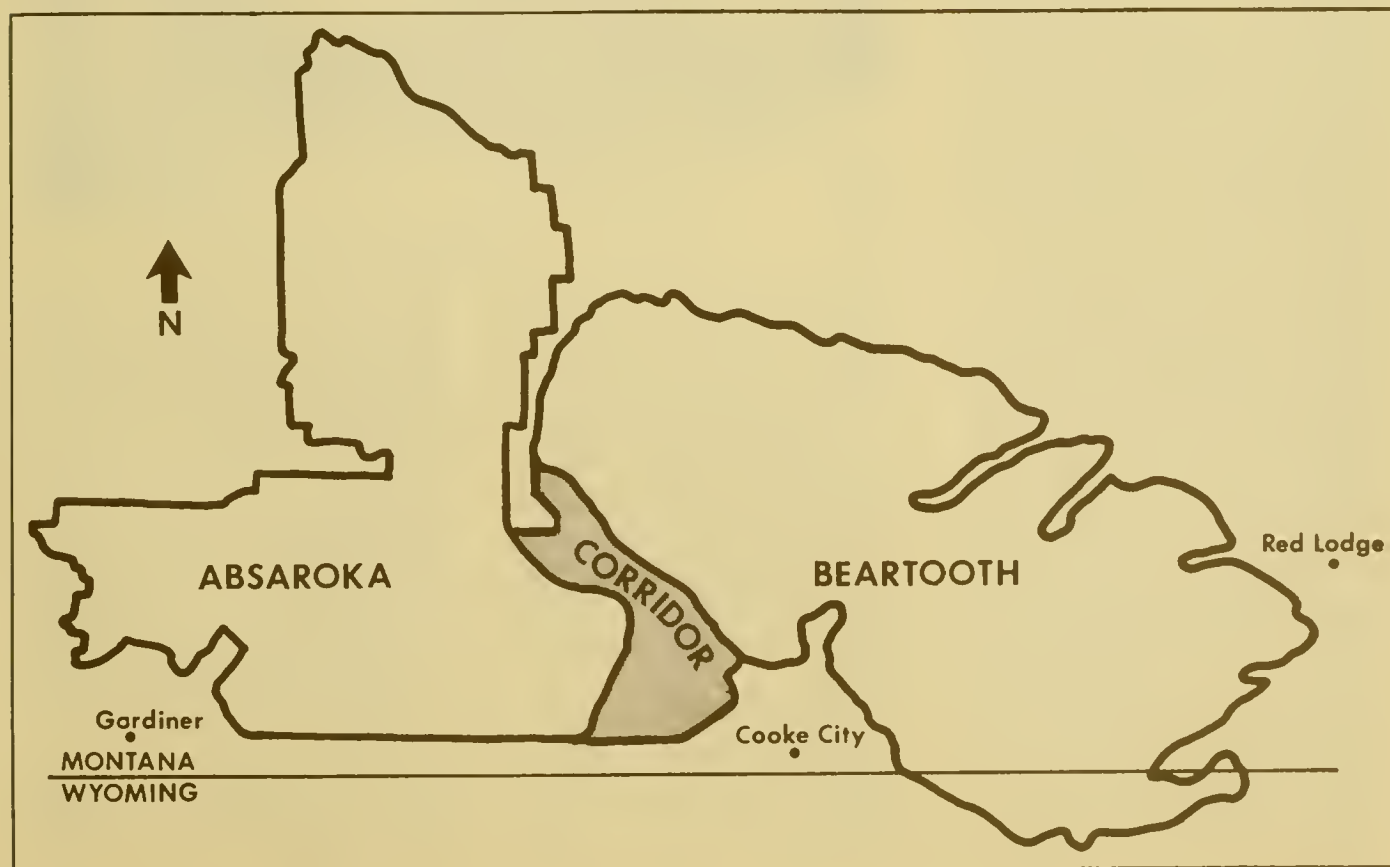
public support for a unified Absaroka-Beartooth Wilderness, the FS included a section of the corridor in a wilderness proposal to join the two areas into a unified Beartooth Wilderness, consisting of 542,347 acres. A larger wilderness area of almost 1 million acres, the "citizens' proposal," includes more of the corridor and dips down into Wyoming to include some high mountain lakes. The citizens' proposal is basically supported by Gov. Thomas L. Judge and the Montana Fish and Game Commission.

Before discovering the records, Sweet Grass and Park counties thought the alleged right-of-way belonged to the FS. There never was much talk about the fact that sections of the alleged right-of-way cross rugged

land with 80-year-old trees. The only semblance of a "road" is a rough seven-mile jeep trail which runs from Independence to the confluence of Slough and Wounded Man creeks. This stretch is part of the citizens' wilderness proposal, but not included in the FS proposal. Between Wounded Man Creek and Lake Abundance (the FS proposal), only a seven-mile horse and foot trail exists with no evidence of any road or any indication where the road might have been.

When the county commissioners learned of the alleged right-of-way, they decided to assert authority over the corridor. The counties have "no desire to push a road through there—not now," said Sweet Grass County Attorney Ken Olson. He said the controversy has nothing to do with the wilderness proposal and "it's strictly a legal question."

The county commissioners are afraid if the counties give up this right-of-way to the federal government, it would set a precedent to allow the federal government to grab more county roads. Also, the counties may later recommend opening the area for mineral exploration and mining. However, the Wilderness Act of 1964 explicitly allows mineral exploration until 1984 and development of any patented or unpatented mining claim



in perpetuity. Both county commissions have instructed their county attorneys to take legal action against the FS which says that a legal right-of-way was not established.

The FS does not recognize any county right-of-way. The legal opinion of the FS received from the Office of General Counsel (the legal counsel for U.S. Dept. of Agriculture agencies) stated it is possible "the road was never established as provided by law . . . if a road was established and existed at one time, it has been abandoned for so long that no positive evidence of a road remains." And, the opinion continues, "if a road from Cooke [City] to Boulder ever existed, parts of it have been abandoned and ownership has reverted to the United States."

As if the situation were not complicated enough, the Montana 4x4 Assn. joined in, declaring club members would hold a "road-busting" trip through the disputed corridor and drive their jeeps across it Aug. 21.

The association's president, Gary Cull, said the group wanted to prove a road exists and "protect the road for our own future use," especially, he said, because it looked like it would be a "challenging road." Indeed, it would be. According to Ross MacPherson, FS information officer for the Gallatin National Forest, trees would have to be cleared to get a jeep through the corridor.

After learning of the planned trip, the FS closed the seven-mile portion of the corridor within the FS wilderness proposal to vehicles more than 40 inches wide, thus barring jeeps but allowing motorcycles and snowmobiles.

By law, areas with the potential for inclusion into wilderness systems must be protected from activities which could damage any of their wilderness characteristics during the study period. While the FS does not feel motorcycles or snowmobiles pose a threat to proposed wildernesses, a convoy of 4x4s could pose a threat to potential wilderness values. Thus, the 4x4 association was asked to curtail its plans. But the FS left open the other half of the corridor, the seven-mile stretch which runs through the citizens' proposal area. Despite the legal opinion given to the FS that no right-of-way exists, Gallatin National Forest Supervisor Lewis E. "Gene" Hawkes was quoted in the Great Falls Tribune as saying the FS had jurisdiction over *only* the portion of the corridor within the FS' proposed

wilderness boundaries.

Not only did the FS leave the citizens' proposal section open, but it decided to *help* the 4x4 association clear the jeep trail of trees.

Learning of this, four environmental groups—the Montana Wilderness Assn., The Wilderness Society, Friends of the Earth and Cross Creek Protective Assn., filed a joint appeal to the FS on Aug. 18. The appellants requested a (1) halt to clearing of the corridor, (2) meeting with the 4-wheel drivers, the county commissioners, the FS and themselves to settle the issue and (3) clarification of the FS' stand on the corridor, particularly Hawkes' statements on corridor jurisdiction. The four groups felt opening the road would compromise the citizens' wilderness proposal.

The FS did not close the citizens' proposal section of the corridor. But after the appeal was filed, the FS decided not to participate in clearing the road. MacPherson said the citizens' section was not closed because public hearings on the area had not been conducted, such as those conducted for the FS proposal area. However, Lawrence Jakub, lawyer for the Office of General Counsel in Missoula, said public hearings are not required before closing an area.

Despite the FS inaction, the 4-wheel drivers were persuaded to call off the trip. Yet, while cooler heads prevailed in averting the road opening trip, trees which had fallen over the jeep trail through the citizens' proposed wilderness area were quietly removed on Aug. 29—by the sheriff and county



Antlers and Barbed Wire

Eastern Montana, Nov. 9, 1934. The wind, chilled by the icy fingers of Arctic currents, flows over the rolling prairies in pulsating surges.

The wind grew stronger, whisked under rocks, lifting up wheat straws and freshly fallen leaves, marking its course as it sailed across frosted brown fields and through brushy coulees. The sky darkened as the day advanced and there was a raw sting in the air reminding one of radiant potbellied stoves and warm spiced cider.

On this particular day, at the head of Cherry Creek on the George H. Martin homestead, two mule bucks showed their belligerence by clashing antlers, each vying for supremacy. As the combatants

twisted and turned in their aggressive attacks, one of the buck's antler tines became entwined in a barbed wire strand. This was the downfall for both as later witnessed by James R. Martin.

When Martin discovered the combatants, one of the deer had strangled due to a strand of wire wrapped around its neck. The other had to be dispatched because it was impossible to free the antlers from the maze of wire snarls. The fight certainly would have to be placed in the championship category because 13 fence posts were broken during the battle.

The mounted deer heads are displayed at the Miles City Range Riders Museum through the courtesy of Martin.

attorney of Sweet Grass County. County Attorney Olson told *Montana Outdoors* he and Sheriff Ken Thompson drove in on the road only to "gather some information...we didn't go there to clear the road at all." However, Olson explained, in the course of going in to gather the information, it was necessary to remove trees in the path. He would not say what information they were gathering.

Meanwhile, the FS seems willing to protect its wilderness proposal by closing the smaller corridor, but remains unwilling to protect the entire 15-mile right-of-way from the incompatible use by 4-wheel drive vehicles. By refusing closure, the agency is not only condoning extensive resource damage to the steep, erodable trail, but it is also undermining the political potential for the expanded corridor boundary before Congress has had a chance to consider it.

SPORTSMEN BUY COLORADO NONGAME STAMPS

Most of the conservation stamps sold by the Colorado Division of Wildlife to support nongame wildlife programs are bought by hunters and fishermen, according to the Wildlife Management Institute.

Colorado inaugurated the \$5 stamp program in 1974 assuming the state's bird watchers, backpackers, campers, nature photographers, etc. would be its most ardent supporters. But that hasn't been the case.

"They're hardly supporting it at all," said John Torres, the division's nongame supervisor. Over the last two years, almost 63% of the stamp buyers have been hunters or fishermen. "So what it amounts to is that the people who complain the most about the status of nongame animals in Colorado are being hypocritical in the sense that they're doing the least to help those animals," Torres said. Only 2,069 of the stamps have been sold since 1974.

Some groups, Torres said, have done their share. He singled out the state's Audubon Society, the Colorado State University chapter of The Wildlife Society and the Mile Hi Jeep Club as being particularly aggressive in their efforts on behalf of the division's nongame program.

• *Montana offers a similar nongame certificate. It's for sale at a relatively low cost—\$5. It's available from department offices or license agents all across Montana. Hopefully, sportsmen and nonsportsmen will*

more eagerly support the Montana nongame program than they did in Colorado.—Ed.

COMMISSION SELECTS LANDOWNERS OF THE YEAR

In the department's continuing endeavor to improve relations between sportsmen and landowners, one landowner in each of the seven administrative regions around the state recently received recognition for his efforts on behalf of sportsmen and wildlife. This is one of many department projects working to improve the all-important relationship between landowners and recreationists.

Those chosen as "Landowners of the Year" for 1976 include: Larry O'Neil, Kalispell, Kalispell region; Jim Nemeth, Blackfoot Valley, Missoula region; Don Anderson, Madison, Wis. (who owns land along the West Gallatin River), Bozeman region; Harold Zehntner, northeast of White Sulphur Springs, Great Falls region; Howard and Alice Nordahl, Molt, Billings region; Bill Young, Clear Creek near Havre, Glasgow region, and Norris Cole, Treasure County, Miles City region.

Each received a framed color photograph of a mountain lion with the inscription, "In recognition of your contribution to understanding and cooperation between landowners and sportsmen in Montana," a 1977 wildlife calendar and a one-year subscription to *Montana Outdoors*.

MONTANA STARS ON TV SERIES

The Montana Academy of Sciences wants to show you how Montana looks to them. And the National Science Foundation has contributed over \$79,000 to make that possible. The result is a series of television programs, directed by several young Montana film makers, that will increase the viewer's appreciation of what Montana has to offer.

The series will air Sunday afternoons on public service time beginning in January. Channels running the shows include Billings 2, Butte 4, Great Falls 3, Missoula 8 and Glendive 5. At press time, exact time for the programs was not firm.

The 12, half-hour shows include the following: "Geology of the High Plains," "Montana Wildflowers," "The Big Sky" (a study of the constellation Orion in Montana's winter sky), "Waters of Montana," "Montana Mining History—the First 30 Years, from Surface to Source," "The Changing Dawn" (describes the

richness of Montana's archaeological treasures), "The Computer in Montana," "Native Birds of Montana," "Boom and Bust" (explores the cyclic nature of Montana's economic history from trapping to strip mining), "Conifer and Forest Use," "History of Montana Indian Art" and "The New Alchemists" (nontechnological solutions to the dilemma of energy vs. the environment).

Anyone desiring to take the series as a credited course can contact the continuing education departments at Montana State University, University of Montana, Northern Montana College, Eastern Montana College or Flathead Valley Community College.

NEW MEMBERS NOT GOOD NEWS

Unlike most organizations, members of the Gallatin Sportsmen's Assn. (GSA) were *not* pleased when their membership more than doubled in a few months.

In January 1976, the GSA had about 150 members. By spring, about 350 persons belonged. But the new members did not join from love for the outdoors and wildlife, according to long-time member Perry Nelson. They joined in droves to force the GSA by weight of numbers to repudiate its stand supporting Sen. Lee Metcalf's (D-Mont.) wilderness study bill (S393 in the 94th Congress) and a proposed game range in the Gallatin National Forest. Because of GSA's general, all-things-to-all-people charter and objectives, "anybody that comes off the street can buy a membership," explained Nelson.

Lee Terrell, who joined to oppose the wilderness stands of the association, said the GSA was no longer a sportsmen's group, but had become a wilderness society. "They don't know what it is to be a true sportsman," he charged. The GSA, he continued, would have closed off the Gallatin to some special interest groups. So he and other concerned businessmen and motorized outdoorsmen overwhelmed the GSA to keep the Gallatin open to loggers, snowmobilers and 4-wheel drivers.

Early attempts by the mechanized sportsmen to overrule the pro-wilderness stand failed. But, said GSA President Richard Day, the pro-wilderness members will probably be outvoted in the December election (after this issue had gone to press). Not wishing to become members of a development-oriented club, some of the original members formed a new

organization, the Gallatin Wildlife Assn.

The anti-wilderness faction never would have been able to infiltrate the GSA "if we had had a good constitution and bylaws," Nelson said. So the new group clearly states its objectives and requirements for membership in its charter. New members must be sponsored by a member of the board of directors and approved by at least two-thirds of the board. Furthermore, members may be ousted by a majority vote of the board if found to be opposed to the basic goals of the group. The charter states a goal of the association is to promote and support wildlife and fisheries. And S393 (which died in the last session of Congress, but which will be introduced when the next Congress convenes) and the proposed game range would promote both. They are "probably the two best things that could happen to wildlife here," Nelson said.

It would behoove other conservation organizations to review their charters to see if their groups could be subverted by such tactics.

STATE FISH NOMINATED

The blackspotted cutthroat trout will get the nod as Montana's state fish—if the legislature concurs. Ballots from 64 Montana towns and 4 other states gave an overwhelming edge to the species.

According to Norma Ashby, coordinator for the State Fish Campaign, the blackspotted cutthroat received 520 votes. It was followed by the grayling with 200 and the rainbow trout with 107.

Other species receiving votes included: brook trout, 26; Dolly Varden, 11; northern pike, 8; walleye, 6; West Slope cutthroat, 5; Flathead chub and brown trout, 4 each; sucker, paddlefish and golden trout, 3 each; remaining votes were given to 10 other species.

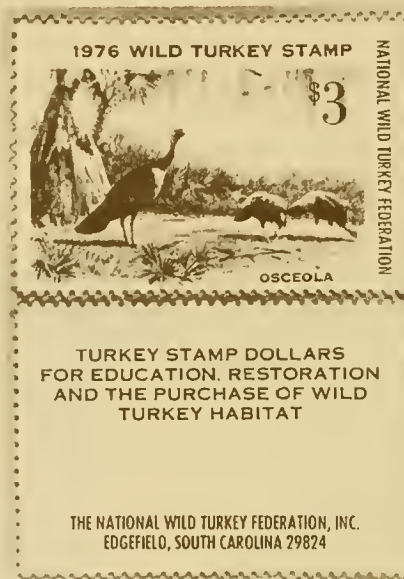
Sen. Margaret S. Warden (D-Great Falls) will introduce the bill to name a state fish for Montana and inform legislators of the results of the balloting.

WILD TURKEY STAMP, PRINT AVAILABLE

The 10,000-member National Wild Turkey Federation has introduced the first annual wild turkey stamp. According to the federation, the program has been designed to resemble the federal duck stamp in both investment and fund-raising potential. All proceeds will go toward education,

restoration and purchase of wild turkey habitat.

The colorful design selected for the first wild turkey stamp (1976) was donated by noted Florida wildlife artist, Russ Smiley, and features the Florida wild turkey. In addition to the limited stamp sale of 50,000, a signed numbered edition of prints (1,000) has been produced. With over 1 million wild turkey hunters in the United States today, the supply of stamps and prints should be exhausted quite rapidly.



The first full-color wild turkey print is available for \$63 unframed and \$110 framed (turkey stamp included). Stamps cost \$3 each and all donations are fully tax deductible. Orders should be sent to: Wild Turkey Stamp, P.O. Box 467; Edgefield, S.C. 29824.

FOR TROUT FISHERMEN ONLY

• *These few words of wisdom were borrowed from The River Rat, the official publication of the Montana Council of Trout Unlimited.—Ed.*

The question is often asked, "What is more important—people or trout?" One thing is certain. There are too many of one and too few of the other.

* * *

Most of us carry a book full of flies that we like instead of a few patterns that the trout like.

* * *

Anglers and politicians have at least one thing in common—both have to have a good line.

* * *

An optimist splices 60 yards of backing onto his fly line. A pessimist worries about hooking a trout large enough to break his rod.

HOW THE PUBLIC SEES TODAY'S HUNTER

While those of us in the hunting fraternity debate the extent or scope of the "slob hunter" problem, what really counts is not the perspective from within but the view from without. For whatever the nonhunting public perceives to be true about today's hunter is the "truth" which we must confront.

To find out precisely what public attitudes really are toward hunting and hunters, the National Shooting Sports Foundation used the research facilities of Batten, Barton, Durstine and Osborne (BBDO), the third largest advertising agency in the country. BBDO developed 115 problems (many nearly duplicates) from interviews with hundreds of persons with no expressed bias for or against hunting. These were sorted by yet more hundreds of noncommitted persons as to frequency and importance. From these, a final listing of problems, in order of significance, was developed.

The results? We found that the public does *not* think hunting is particularly an unfair contest (rank 97th), nor does it think it is a "sick" activity (rank 109th). The question of the need for hunting in today's society isn't a burning issue either, since it ranks 106th. Hunting to prove masculinity is 100th on the list.

Now the bad news: The top ten problems the public has with hunting really address themselves to the technical expertise of the hunter. The public sees him as a no-talent, poorly prepared guy who does a rotten job in the field, scattering crippled and wounded game, and who is dangerous to his own kind as well.

The next ten issues deal almost exclusively with the ethical conduct of hunters, as opposed to the lack of proficiency they are perceived to have. In short, our friend, the slob hunter, comes out near the top of the problem heap, paying little heed to "no trespassing" signs, shooting near roads and ignoring the rights of others.

Why does the public have such a negative view of the hunter? As with practically any other group, whether hunters or motorcyclists, the bad acts of a few create a strong and lasting impression, while the proper behavior of the majority goes largely unnoticed.—*National Shooting Sports Foundation*

BURROS

Nobody really owns the deer, elk, bears or rabbits that roam America—

they belong to all of us in common. But a recent Supreme Court decision ruled that, under the Constitution, the federal government has power to protect wildlife on public land.

On June 17, 1976, the U.S. Supreme Court unanimously reversed a lower court decision which had declared the Wild Free-Roaming Horses and Burros Act unconstitutional. The New Mexico Livestock Board had rounded up 19 wild burros it claimed were molesting cattle on Bureau of Land Management (BLM) land. The board then auctioned the burros. After the sale, the BLM demanded the animals be returned to the public lands, using the Wild Free-Roaming Horses and Burros Act as its authority.

The livestock board contended the act infringed on state authority and sovereignty and was thus unconstitutional. A three-judge district court agreed.

But on appeal, the Supreme Court overturned the lower court's decision and ruled the act constitutional. The International Assn. of Fish and Wildlife Agencies (IAFWA) favored the reversal but took the position that the burros were feral animals, not wildlife, and that therefore the court need not concern itself with the implications of state ownership of wildlife.

But the court drew no distinction

and said Congress has the power not only to control the public lands, but "the power to regulate and protect the wildlife living there."

The states did not contest Congress' right to protect wildlife or public land, but regulation of wildlife by Congress infringes on traditional state jurisdiction.

For example, the right of federal agencies to thin overpopulated deer herds, regardless of state hunting laws, had already been established. But this occurs to prevent deer from damaging habitat. Traditionally, states manage wildlife, and federal agencies, such as the Forest Service (FS), manage the habitat—the trees, water, etc. This has created an absurd situation. Obviously, whoever controls habitat affects wildlife populations also. And likewise, manipulation of wildlife—populations and types of animals—affects habitat.

While federal authority over wildlife was expanded, state authority over wildlife was reaffirmed. The court said state authority over wild animals stems not only from police power (the same concept by which states set speed limits and arrest thieves) but from a "trusteeship."

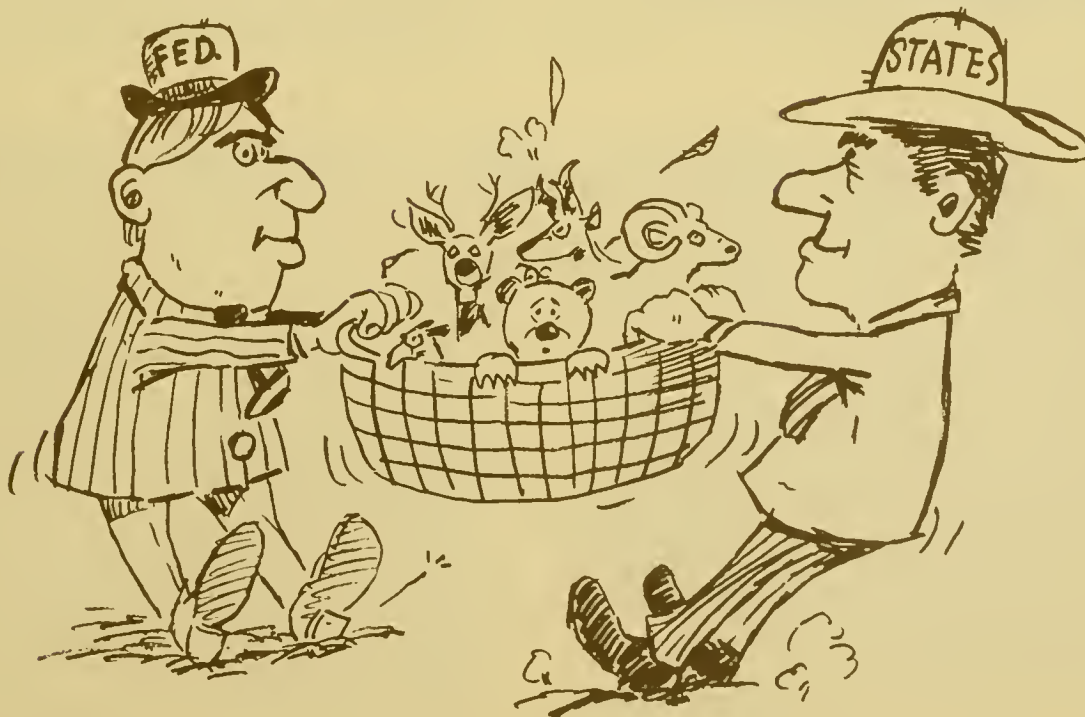
How the decision will actually affect wildlife management remains unknown. Congress recognized the authority and responsibility of the

states in managing wildlife on the public lands in the Sikes Act of 1974. But with the burro decision, Congress could delegate additional authority over wildlife to the FS, BLM or U.S. Fish and Wildlife Service. Undoubtedly, fish and game commissions would fiercely fight such action.

But even before the recent decision, Congress passed the Endangered Species Act, the Marine Mammal Protection Act and the hunting from aircraft act, all of which regulate the taking of wildlife. It seems, as Paul Lenzini, lawyer for the IAFWA, said, "Congress never doubted its authority [to protect wildlife] in the first place."

The decision may be a solid foot in the door for a nationwide hunting and fishing license. But perhaps the greatest threat the decision holds is that anti-hunting groups may find it easier to pressure Congress than individual states to ban hunting on public lands.

If Congress does decide to assert its authority, it will be the western states which will be most affected. States east of the Mississippi River have relatively smaller public land holdings. But the western states have vast tracts of federally owned land. Under federal control, game management decisions on whether to hunt could be made by those who live



graphics: Vern Craig

elsewhere—namely in the East. And this would be disastrous for western wildlife.

COURT SETTLES LONG DISPUTE

The Dept. of Fish and Game has the right to discriminate against nonresident hunters to raise money and control the harvest of game, a U.S. District Court ruled Aug. 11, 1976.

The Montana Outfitters Action Group (four nonresident hunters and one resident outfitter) had challenged the constitutionality of Montana's high nonresident hunting license fees. The group conceded the state had a right to charge nonresidents more than residents because residents—through taxes other than hunting and fishing fees—underwrite the state's wildlife management program. For example, the Environmental Quality Council, the Dept. of Natural Resources and Conservation, the Water Quality Bureau of the Dept. of Health and Environmental Sciences and the Dept. of Fish and Game itself are all state agencies which work to maintain a high quality environment, which is also essential to wildlife. In addition

to paying for these agencies' programs, Montanans have sacrificed financial gain to keep Montana free and open.

But the group argued the difference in nonresident and resident license fees was too great.

Nonresidents must buy a \$225 combination license to hunt elk, the primary concern of the group. The license includes a conservation license, deer "A" tag, elk tag and authorizes hunting of upland game birds and fishing. A similar package for a resident hunter, but including a black bear tag, costs \$35. The difference in cost is about 6.5 to 1 in favor of the resident, while the differential is much greater for a nonresident who wishes to hunt only elk.

The court agreed the cost differences were too great to be justified solely by the cost of game management. A ratio of no more than 2.5 to 1 was considered reasonable by the plaintiffs. If this ratio became law, it would lower nonresident elk only tags to \$20, or increase resident elk only licenses to \$90. Most likely, however, it would mean increasing resident *and* decreasing nonresident

fees to meet the dictated ratio.

But two members of the three-judge court ruled that "not everyone may hunt elk. There are too many people and too few elk." The court noted a 536% increase in nonresident hunters in Montana from 1960-70, compared with a 67% increase in resident hunters in the same period.

The court said high license fees are an acceptable method of limiting the number of hunters. Hunting is not a constitutional right, the court ruled, and therefore "a state may prefer its residents over the residents of other states. . . ."

The decision settles a long disputed question in Montana, which has more nonresident sportsmen than any other state. Before the decision, Fletcher Newby, deputy director of the department, said, "If we lose this, it could destroy wildlife management." Nonresident license fees are vital in supplying money for wildlife research and land acquisitions.

The group appealed this decision to the U.S. Supreme Court. If the court accepts the appeal, a decision will not be forthcoming for several months. Until then, the district court decision stands.

editorial

can grizzly and man coexist in the parks?

After the incidents of the past year, we must face this question.

Three persons were fatally mauled—one each in Montana's Glacier National Park, British Columbia's Glacier National Park and Alaska's Glacier Bay National Monument. There were also a few nonfatal maulings.

Very few such confrontations occur *outside* national parks, even though there are as many or more bears there. In fact, south of Canada, there hasn't been a fatal grizzly mauling outside a national park in the last 20 years. In 1955, a hunter was killed by a wounded bear in Montana's Bob Marshall Wilderness. But this provoked attack was the only such fatality in Idaho, Montana, Washington or Wyoming in recent history.

One reason for this is that outside the parks the grizzly is still hunted or has been until recently. Specifically, limited hunting is still allowed in northwestern Montana, western Canada and Alaska. In the Yellowstone National

Park area, hunting was temporarily halted in 1974. Thus, one can logically conclude that in these nonpark habitats, the grizzly is more wary of man.

The grizzly is a very intelligent animal. It knows when to hide. Likewise, it knows when it's safe. Family groups stay together for a long time, so mother bears pass their habits of survival on to their cubs.

In the parks, the bear has become less afraid of man. At the same time, the grizzly has, in some cases, learned to associate man with food—from campgrounds, garbage dumps, etc.—instead of with danger—from hunting, trapping, etc. Even with excellent sanitation, grizzlies still get food in the presence of man. They learn this easily, and females teach their young.

In the parks, these factors—lack of man-caused danger and receiving food from man—combine to create a very dangerous animal, the type which has probably caused

most injuries and deaths in the national parks. Outside the parks, there is much less recreational use, i.e., fewer people and less garbage. A few high-use recreational areas exist outside the parks where bears and people live in close proximity. However, here the grizzly can be hunted. Thus, the dangerous grizzly rarely develops. That's one reason fewer incidents occur outside the parks.

We think grizzly and man can coexist in the national parks. But policy changes are needed to make these heavily used recreation areas safer.

Almost everybody agrees with this. However, suggestions are infrequent at best.

Perhaps hunting within the parks could accomplish the objective of making park grizzlies more wary and the parks safer. But this is politically unacceptable and inconsistent with park service policy.

Somehow, we must make the park grizzlies more wary. We have to hurt the bears or make them violently ill without causing death. The method really isn't important—whatever works best. However, it's vital to initiate this "bear education" program as soon as possible. Grizzly populations in the parks *may* be, in their entirety, becoming more accustomed to man. Because this may be happening, we must attempt to reverse the trend. Even if population behavior isn't noticeably changing, we must prevent the development of individual, "man-conditioned" grizzlies—the really dangerous bears. Such action would undoubtedly make the parks *safer* for hikers and campers. But it would not prevent all grizzly maulings. There will be a few incidents regardless of preventive management. Thousands of recreationists annually trek into grizzly country. At times, they inadvertently threaten the bear, its young or food. The bear merely acts in self-defense. If we can't learn to accept these few, apparently inevitable incidents, then grizzly and man *cannot* coexist in the national parks.

The grizzly is a large, powerful and unpredictable wild animal. The big bear could, with ease, kill many hikers daily, as the opportunity is certainly there. Yet, we have only a handful of confrontations each year. And many of these involve hikers who accidentally come between a

female and her cubs, stumble onto a food cache or startle an unaware bear.

To reduce the frequency of these types of confrontations, we must also educate people, not only bears. Recreationists entering grizzly country must know—and follow—the "rules of the road." Recommendations for grizzly country travel are readily available from park employees.

The National Park Service (NPS) has progressed in educating people about how to avoid grizzly confrontations and what to do if an incident occurs. The NPS has also closed trails immediately after any bear trouble and imposed restrictions on camping to cut down confrontations. In the future, the federal agency will likely impose limits on the number of recreationists entering grizzly country in certain heavily used areas.

However, we suggest park officials go a step further and prescribe very stiff fines for hiking on closed trails, illegal camping and similar infractions. For example, last year illegal camping by others may have been partly responsible for the death of Mary Patricia Mahoney in Montana's Glacier Park.

We think campers who ignore park restrictions should be socked with a fine of \$100 or more. This is *education*.

After each bloody meeting between grizzly and man, a wave of sentiment rises up against the bear. A few people have even recommended eliminating the grizzly in the national parks to make these recreation areas safer for people. Until now, the NPS has resisted such sentiment. In most cases, park officials have put the bear before the recreational demands of hordes of outdoor enthusiasts. This first priority given the wild creatures in the parks must continue. In the future, it will probably have to be even more stringent to preserve something close to "natural" ecosystems.

Administrators must make every effort to assure that grizzly and man can coexist in the national parks. They must make the grizzly wary. Park users must help by obeying restrictions and grizzly country manners.

If it ever becomes clear that these two species can't coexist, do we leave the parks to people or to bears?—*Bill Schneider*

hunting beyond the bicentennial

Whatever the future holds for hunting, good or bad, the hunter has probably got coming to him. If game management continues to enhance and regulate the game supply, it will be due to the financial, moral and political support of the hunter. If game management is corroded and weakened by political spoilers, it will be largely due to the inaction and indifference of the hunter—and his hunting will lose by default. Game management depends on the hunter, and the quality of hunting will be determined by the quality of the hunter, today and tomorrow. Whatever friends and allies he has, he'll have earned. And whatever enemies the hunter has, he'll probably have earned also.

A number of surveys has indicated that much of the so-called "anti-hunting sentiment" is essentially anti-hunter sentiment. There's a difference. Many of our critics are not opposed to the hunting of wildlife so much as the ways in which wildlife is hunted. They are not really against hunting in principle, but hunting in practice.

If there is good hunting in the future, it will be because the average hunter has shown a greatly increased willingness to cause and support such hunting—in other words, a man who has largely abandoned the old myth of

"free hunting" and has become willing to spend a great deal more in terms of some kind of coin: money, time, effort or all three.

The greatest danger to hunting today is the chiseler who wants something for nothing. At no real expense of time or effort or money, he demands something to hunt and places to hunt it. He invests little knowledge in his act of hunting and little sympathy or understanding of wildlife and its land base—and the genuine hunter ends up paying for it.

If there's such a thing as good free hunting, I've never seen much of it. The good hunting I've had has averaged out costing a lot of time and effort—and some money, although I've usually had more time and sweat to spend than cash. Granted, the greatest benefit of good hunting is quality freedom in quality country. But in this lies the germ of hunting's own destruction, for too many hunters demand freedom without responsibility. It is this demand for freedom afield, without concurrent willingness to pay the costs of freedom, that can be the ruin of genuine hunting as we know it.

Now, a hunter may say, and understandably so, "Daily life has restrictions enough; I go hunting to find freedom

and escape restrictions." However, this is impossible. The ethical hunter imposes special restrictions on himself when he goes afield and a sure definition of the slob hunter is one who refuses to observe any restrictions in the course of his hunting or accept any responsibility for his actions. This is an especially critical problem in hunting because, as Aldo Leopold pointed out: "The hunter ordinarily has no gallery to applaud or disapprove his conduct. Whatever his acts, they are dictated by his own conscience, rather than by a mob of onlookers."

I know a guide down in Stuttgart, Ark., who is highly offended by the term "arkansawing" ducks. He's plumb opposed to shooting ducks on the water and once told me, "A man who does a thing like that ain't got no heart—all he's got is a thumpin' gizzard." And there's the problem: How do you prevent a heart from becoming a thumpin' gizzard?

We can't think of a more immediate way than effective hunter safety training programs. Some states now have good programs in force and are working to expand and improve them, but other states are still doddering along with weak hunter safety programs or none at all. We believe that these should be mandatory, high budget, top priority programs with stringent requirements, competent instructors and first class teaching materials. The programs must involve gun safety, of course. But just as important, they must entail basic instruction in conservation, hunting ethics and practices and instill an abiding intolerance for slob hunters—the greatest threat to our sport.

And always underlying everything else, there must be effective professional management. Its main product may always be huntable game, for that is the commodity that attracts the investors. But it goes beyond that, for it is a process that can help instill a land ethic in a landless public by providing a whole range of human experiences with wildlife in quality natural environments. Professional game management can produce more wildlife for everyone. And in doing so, it may produce something far more important: a growing state of harmony between men and land. Such management is the only solid ground from which we can defend the sport of hunting—and the lack of it is the only solid ground from which our enemies can attack.

There's an interesting line in the movie, "Three Days of the Condor." An old spy is talking to a young spy. The kid has heard that the senior spy dates back to the OSS and World War II and the old-timer replies, "Yes, and even before that. And I certainly miss those days."

"Oh? What do you miss—all the action that you had then?"

"No," was the reply. "I miss the clarity."

Many of us here miss the clarity with which we viewed game management 25 years ago, when we were young and the dragons were smaller. But however the problems have grown, so has the new breed of men and women who'll be facing them. My son Chris recently took his orals for the M.S. degree in wildlife ecology at the University of Wisconsin. In his peer group he is nothing unusual—but he's far smarter, better trained and better equipped than his father. He's a better man than I and he'll have to be, for his dragons are bigger.

His allies, the genuine hunters, face those same dragons. They, too, will have to be better men than their fathers. If there is good hunting in the future, it will be caused and practiced by men willing to pay their dues in terms of time, money and effort and who proudly accept the restrictions that ethical field conduct imposes. There are not just the requirements of an increasingly critical society, but also of increasingly vulnerable environments. The same qualities that will help make the hunter acceptable to society as a whole will also impel him to fight for the quality landscapes that produce and support game surpluses. His deepening commitment will not only provide a solid ethical base for his act of hunting, but a sound political base from which he can help perpetuate quality country and its wildlife component.

Again, we're not saying that this ideal will develop, but that it must develop. Through almost all of human existence, huntable land and huntable wildlife have preceded the hunter. They caused the hunter. But in the future this must be reversed. It is the hunter who must cause huntable land and wildlife and a world worth being young in.—*John Madson*

• *John Madson is the conservation director for the Winchester-Western Conservation Dept. He has written numerous articles and books on wildlife and the environment.—Ed.*

a small tribute *(continued)*

individual, a former and current member of the commission and as a member of the Hill County Wildlife Assn.—deserve special mention. Most recently, Joe spent considerable time in Washington, in meetings with several Montana Congressmen and with numerous phone calls to a variety of people in his personal efforts to see S1506 succeed.

We know we've left out many, but our intent here was to at least say "thanks" and attempt to express our collective feelings for what must be considered a conservation milestone.

The next step for the Missouri rests with the Bureau of Land Management which now has authority over management of the river's environs, as specified in S1506. We trust the BLM will implement a policy which retains these values for which we all fought so long and hard.



Wes Woodgerd, Director
Department of Fish and Game

recycled paper



Department Projects:

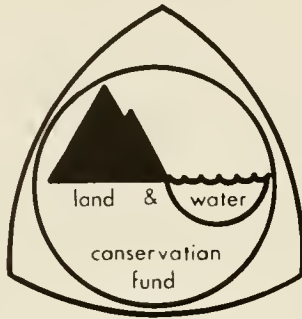
The Land and Water Conservation Fund

by Ron Aasheim

Most Montanans have seen or heard news about the state or a political subdivision of it (a city or county, for example) receiving a grant for providing some type of recreation



Cross-country ski trails (F&G photo: Bill Schneider), municipal swimming pools and city parks (F&G photos: Ron Aasheim)—only three of many recreational activities benefited by the Land and Water Conservation Fund.



FACILITIES PROVIDED WITH ASSISTANCE OF THE LAND AND WATER CONSERVATION FUND IN MONTANA

Facilities	Number
Archery Courses	2
Beaches	8
Beautification	15
Bikeway Systems	2
Boating Facilities	35
Camping/Picnic Units	130
Fishing Access Sites	85
Fishponds	5
Golf Courses	8
Handball Courts	1
Hiking Trails	12
Horseshoe Courts	21
Multi-Purpose Courts	27
Play Fields	42
Playgrounds	65
Recreation Reservoirs and Dams	1
Sports Areas	17
Spray Pools	9
State Parks and Recreation Areas	45
Swimming Pools (New)	27
Swimming Pools (Renovated)	12
Target Ranges	1
Tennis Courts	40
Totlots	15
Wading Pools	13
Water Improvements	120
Winter Sports Areas	12

area or facility. Most people don't have any idea where this money comes from, what it can be used for or why the Montana Dept. of Fish and Game is often named the recipient of such grants. Some basic information about this grants program can be the start for eventually providing a wide variety of outdoor recreation facilities for your community.

The idea for a Land and Water Conservation Fund (LWCF) and a federal Bureau of Outdoor Recreation (BOR) originated in a report called "Outdoor Recreation in America." The result of studies and recommendations by the Outdoor Recreation Resource Review Commission, the report stated that adequate provisions were not being made for the nation's rapidly expanding outdoor recreation needs and that the gap between supply and demand would widen in the future.

As a first step in meeting increasing demands for outdoor recreation, Congress created the Bureau of Outdoor Recreation as an agency of the Dept. of the Interior in 1963. The BOR was charged with: inventorying and classifying outdoor recreation in the United States; preparing a nationwide outdoor recreation plan; providing technical assistance to the states; encouraging interstate and regional cooperation in planning, acquisition and development of outdoor recreation resources, and sponsoring research and education related to outdoor recreation.

In 1965, Congress passed the Land and Water Conservation Fund Act which was to be administered by the BOR. The impetus and capabilities of the BOR enlarged considerably as funds were made available specifically for "providing a diversity of outdoor recreation resources which would allow individual active participation in a variety of outdoor recreation pastimes."

To accomplish the act's directives, Congress provided up to \$300 million annually from 1965-1989. Specified federal agencies receive a minimum of 40% of these dollars with the states receiving the remainder. Funds come from four sources: (1) sale of surplus federal property, (2) a federal tax on motorboat fuels, (3) entrance and user fees at federal recreation areas and (4) outer continental shelf mineral lease receipts.

States receive LWCF money for planning, acquisition and development of public outdoor recreation areas and facilities as reimbursable grants that may cover up to 50% of outdoor recreation project costs. In other words, for every dollar a grant recipient spends, 50 cents will be reimbursed by the LWCF.

In Montana, the Recreation and Parks Division of the Dept. of Fish and Game administers the LWCF. The division receives and apportions funds to eligible sponsors and assists sponsors with project administration. Eligible sponsors in Montana include cities and towns, counties, state agencies and, under certain circumstances, school districts.

In the 11-year history of the LWCF, Montana has received nearly \$15 million. With the 50% matching

requirement, this means that over \$30 million has been spent on planning, acquisition and development of public outdoor recreation areas and facilities. Political subdivisions of the state have received about 60% of the money, and 40% of the state's total apportionment has gone to state agencies.

The fund has provided facilities for many Montanans—100 of Montana's 126 incorporated cities and towns in 50 of the state's 56 counties have sponsored projects and have received direct financial assistance from the program.

An even larger number of Montanans benefit from what the LWCF has provided at the state level. To date, 85 fishing access sites and 40 state parks and recreation areas have been acquired or developed with LWCF assistance. Nearly every new acquisition which results in a state fishing access site, park or recreation area and most later site improvements (tables, boat ramps, toilets) are funded in part by the LWCF.

Fig. 1 lists specific types of areas and facilities that the 380 LWCF projects approved in Montana have provided. The smallest project totaled \$950 and the largest, nearly \$3 million. (See the Sept./Oct. 1976 *Montana Outdoors*, p. 39.) Recreation areas and facilities acquired or developed with LWCF assistance in the state are identified by the symbol shown at the top of Fig. 1.

To participate and receive financial assistance from the LWCF, an applicant must: (1) qualify as an eligible sponsor, (2) have his share (50%) of project costs and (3) complete brief application forms. Recreation and Parks staff members are available to assist with applications and administration of approved projects.

The division accepts applications through Nov. 1 of each year and decides who will receive grants by Feb. 1. Chances of an eligible project receiving assistance have historically been excellent in Montana. Competition is becoming stiffer, however, as 1976 marked the first year that requests for LWCF dollars exceeded available money.

The future of the LWCF looks bright. In 1975, a bill was proposed which would have eliminated federal funding of the LWCF for 1976. The public reacted overwhelmingly against this proposed funding moratorium. So, funding levels were maintained. In October 1976, because of the tremendous interest in the LWCF and the quality of facilities the fund has provided across the nation, legislation increasing funding limits to \$600 million in 1978, \$750 million in 1979 and \$900 million in each subsequent year (through 1989) was enacted.

Substantial funding is now anticipated for the future. These dollars are available to and meant to benefit all citizens of the state. If the lack of an outdoor recreation area or facility is keeping you from pursuing a favorite pastime, consider the Land and Water Conservation Fund. Its intent is to serve you. 🐾





photo Gus Wolfe

Is It Working?

Montana's New Water Law

by Liter Spence

Now that Montana's water law has been on the books for three years, has it been working effectively for fish and wildlife?

This new law, called the Montana Water Use Act, went into effect July 1, 1973. The act implemented Article IX, Section 3(4) of the Montana Constitution which required the legislature to provide for the "administration, control and regulation of water rights" and established a centralized system for recording water rights. This system improved the means of "doing business" under the old water laws. (See the July/August 1972 *Montana Outdoors*, p. 14, for an article on the old law.)

The old way of acquiring water rights was a hodgepodge—the law didn't require any specific means of appropriation; it did not provide for a centralized place to record the water right. In fact, the new right didn't even have to be recorded! When rights *were* recorded, they were listed in the courthouse of the county where the appropriation was made. Obviously, the increase in water use because of industrial and agricultural expansion and the water problems associated with that expansion necessitated a new system.

The new act did even more than improve the administration of water rights. The act's policy statement says it is the policy of the state to "encourage the wise use of the state's water resources by making them available for appropriation consistent with this act, and to provide for the wise utilization, development and conservation of the waters of the state for the maximum benefit of its people *with the least possible degradation of the natural aquatic ecosystem*" (emphasis added). The act defines "beneficial use" to include—for the first time in Montana water use law—fish, wildlife and recreational uses. Thus, fish, wildlife and recreation gained an opportunity to claim water along with the traditional beneficial uses of agricultural, domestic, industrial, mining, municipal power and irrigation interests.

The new water use act included a concept in water law which never before existed in Montana. It allowed state agencies like the Dept. of Fish and Game to "reserve" water within a stream channel for fish, wildlife and recreation. Generally, under the old law, fish and wildlife could only obtain a water right if the water was diverted from the stream for their use. Now it is possible to obtain a right to keep water

in the stream to maintain fish and other water-oriented plant and animal populations—a need absolutely necessary for their continued existence.

In some respects, the department's enthusiasm for the three-year-old water law has diminished. Under the new law, anyone wishing to appropriate water must first apply to the Dept. of Natural Resources and Conservation (DNRC) for a permit. DNRC processes these applications and may release them to the public for review and comment. DNRC then notifies, by mail, water users who have prior rights in the stream or lake. The rest of the public is notified by an announcement in the classified section of a local newspaper. Subsequently, anyone who feels he may be affected by the new appropriation can notify DNRC that he objects to issuance of the permit, or would like the permit modified.

If DNRC receives a valid objection, a hearing is conducted where relevant testimony is taken by a hearing officer. After the hearing, the hearing officer makes a proposed decision and sends it to the interested parties. If nobody objects to that decision, it becomes final. Someone disagreeing with the decision can pursue his objections through an administrative appeals process which could eventually wind up in court.

The Dept. of Fish and Game, feeling that the policy of the act and the definition of beneficial use gave considerable weight to protection of fish and wildlife, began objecting to water use applications where the proposed new appropriation would degrade aquatic resources. But these important resources had no standing when it came to new water use permits unless a prior fish and game right existed or a reservation had been granted. Without this standing, these resources are no better off than they were before the new water law was passed; i.e., persons can still divert water from a stream; they simply follow a different process than under the old law. Fish and wildlife which depend on water in that stream continue to suffer, as if no new law had been passed.

This difficulty focuses on interpretation of the language of the act. This interpretation centers around the definition of "existing right" found in Section 89-867, Section 89-885 which describes the "criteria for issuance of a permit" and Sections 89-882 and 89-883 which refer to validity of objections.

The act defines an existing right as "a right to the use of water which would be protected under the law as it existed prior to July 1, 1973." In other words, anyone who had obtained a valid water right under the old water law still retained that right under the new law. (See the July/August 1973 *Montana Outdoors*, p. 6.) However, since fish and wildlife formerly could not obtain a water right in most streams without diversion (there are 12 exceptions that will be discussed later), those resources are without an "existing right."

Nowhere in the criteria for issuance of a permit is there language that would allow DNRC to deny a permit if the new appropriation would adversely

affect fish and wildlife. An attempt by the Dept. of Fish and Game to include such language failed in both the 1973 and 1975 legislatures. Thus, despite specific language in the act's policy statement which speaks to nondegradation of aquatic resources, fish, wildlife and recreation are still taking a back seat to long-established water uses.

The department has discontinued objecting to most water use permit applications because of past experiences. Objections to a permit based on possible effects on fish, wildlife and recreation are answered by DNRC in the following way: "Please be advised that the Department [DNRC] has determined under Sections 89-882 and 89-883 that your objection to this application is not a valid objection. The objection has been determined to be invalid for the reason that nondiversionary fish and wildlife uses are not recognized under Montana law before July 1, 1973. The Department will, therefore, proceed to issue the permit subject to all existing water rights."

In one particular instance, the Dept. of Fish and Game objected to issuing a permit to drain a high water table by drilling five wells, pumping the water out of the ground and discharging the pumped water into a nearby stream. The department questioned whether draining a high water table was even a beneficial use and also because of concern for possible water quality changes in the stream. However, the objection was again declared invalid because: (1) "The drainage of a high water table by means of five wells as proposed by the applicant in the application *may* be a beneficial use" (emphasis added), and (2) "the Department of Fish and Game has no standing to make such an objection."

Thus, whether fish and wildlife have *ever* had an existing right will have to be decided in the courts. Without this determination, or unless a change is made in current water law, these resources will continue to receive no consideration.

However, the act *does* allow certain state governmental entities to reserve water for an existing or future beneficial use. Agencies such as the Dept. of Fish and Game can apply for a water right to keep water instream for fish, wildlife and recreation. County Soil and Water Conservation districts can apply for water for a future irrigation use, or to maintain stream flow at a level which will allow continued use of existing irrigation diversions. Also, municipalities can reserve water for domestic use.

Feeling that the department could now save some water in streams, it submitted three applications to DNRC: the Yellowstone River in March 1974, on Prickly Pear Creek near Helena in October 1974 and on the East Fork of Blacktail Deer Creek near Dillon in January 1975. Despite the time lapse of almost two years since submitting the last application, none of these applications has been acted upon. The apparent reason was lack of personnel and/or lack of administrative rules under the Montana Administrative Procedures Act for reviewing the applications. The administrative rules were adopted in March 1976. The department's applications can

now be processed; an amended application for the Yellowstone River Basin was recently submitted. The other two applications must also be amended to conform to the new rules.

The department had an additional undesirable experience with the new water law concerning the "existing right" concept again. The 1969 legislature passed a law which allowed the Dept. of Fish and Game to appropriate the unappropriated water on 12 streams or stream sections "in such amounts only as may be necessary to maintain streamflows necessary for the preservation of fish and wildlife habitat." The law also stated that such uses had a prior right over other uses until the district court in the area decided another use would be more beneficial to the public. In 1970 and 1971, the department filed in the appropriate counties to acquire specific amounts of water in these 12 streams (or sections):

- Big Spring Creek—Fergus County,
- Blackfoot River—Missoula and Powell counties,
- Flathead River including the North Fork—Flathead County,
- Gallatin River—Gallatin County,
- West Gallatin River—Gallatin County,
- Madison River—Madison and Gallatin counties,
- Missouri River—Lewis and Clark, Broadwater and Cascade counties,
- Rock Creek—Granite and Missoula counties,
- Smith River—Cascade and Meagher counties,
- Yellowstone River—Stillwater, Sweet Grass and Park counties,
- Middle Fork of the Flathead River—Flathead County and
- South Fork of the Flathead River—Flathead and Powell counties.

No objections were received to those filings. When all existing water rights were confirmed by both the 1972 Montana Constitution and the 1973 Montana Water Use Act, this department's "rights" were included. Fish and wildlife had an "existing right" to use water flowing in a stream channel.

Then, several applications were received to appropriate water for irrigation from the upper Smith River. Since the department felt these permits and those which would follow might degrade the fishery, it objected to issuance unless the permits were modified so that stream flow during summer low water would not be affected. A public hearing was conducted on the applications and the Dept. of Fish and Game was the only objector. The attorney for the applicants inquired about how much water fish in the Smith River had used. There seemed to be no question that the department had an "existing right" in the Smith River, but before that "right" could be accepted as valid, the department had to show the amount appropriated was actually necessary.

Smith River fish have not evolved because of any one flow or two flows, but because of a variety of flows. The Smith is mostly an unregulated stream (there is a dam on the North Fork). Thus, stream flows have been only partially regulated and fish

populations have evolved due to a wide variation of stream flows—from very high to very low. Yet, the department is asked to put a "number" on those flows necessary to maintain the fishery. "How much water do fish in the Smith River need?", is the question asked by the opponents. If one could ask a two-pound brown trout in the Smith how much water he needed in the middle of a dry August, his answer would likely be that he needed all he could get and most surely didn't need any less than was there at the time.

The proposed order by the DNRC hearing officer upheld the opinion of the applicants. In addition to stating that the department's "right" had to be quantified to be valid, the order went so far as to imply that recreational use on the Smith River is unrelated to preservation of fish and wildlife habitat.

Again, even where fish and wildlife have a so-called "existing right," the new water law has not protected those resources.

Unlike diversionary water use permits which can be approved by the Dept. of Natural Resources and Conservation, water reservations must be approved by the Board of Natural Resources and Conservation, composed of citizens appointed by the governor. The board cannot adopt an order reserving water unless the applicant establishes to the board's satisfaction:

- (1) "the purpose of the reservation,
- (2) the need for the reservation,
- (3) the amount of water necessary for the purpose of the reservation and
- (4) that the reservation is in the public interest. . ."

The third requirement is most difficult to meet. Quantification of instream flows necessary to maintain aquatic life is a nationwide problem, but of particular concern to us in the West where the doctrine of prior appropriation—"first in time is first in right"—is the current law. Water reservations cannot interfere with existing (prior) rights, and there may be instances where there will not be enough water to meet all the needs of a reservation request.

The Dept. of Fish and Game is seeking suitable methods to make these instream flow determinations. Many persons might wonder why biologists cannot simply go out, look at a stream and arrive at a satisfactory minimum flow. This probably could be done if biologists were looking only for a "minimum" flow.

A minimum flow implies one which will just get fish populations through critical low water. Adequate fish production cannot be maintained very long if only "minimum" flows occur in a stream. To uphold high quality fishing, stream flows must provide for suitable habitat, food production and spawning areas over many years. To believe otherwise would be similar to someone telling you that because you survived a heart attack once, you should have one every year.

Fish populations in free-flowing streams have evolved to their current levels because of a variety of historical flow conditions. Stream flows change

monthly, daily and even hourly in unregulated streams and each time of year plays an important part in maintaining fish populations. For example, some fish spawn during spring run-off while others wait until fall when flows are low. Eggs and young trout remain in stream gravels during portions of both spring and winter months. Migratory fish require adequate depth over shallow riffles to reach their spawning areas. Young fish migrating out of spawning areas need suitable flows to get back downstream. Food producing areas and places for fish to hide must be available at all times of the year. It is clear that year-round water reservations are necessary to satisfy the long-term needs of aquatic resources.

Competition for finite amounts of water is great and will become even greater in future years. When compared to other uses of water, instream water uses require comparably larger amounts of water than diversionary uses due to the nature of streams and their needs. Most people will not argue against the need for water in a stream. The argument comes when the *amount* of water necessary is discussed, particularly when competing uses are involved.

The department must justify the need for recommended flows as well as the suitability of the methods used. As the science for accomplishing this develops, the demand for water increases with every new irrigated acre placed into production and each new industry requiring water.

The department must also concern itself with maintenance of the overall integrity of free-flowing streams. "Integrity" relates to an unimpaired condition, or to a state of being complete or undivided.

Historical stream flows in Montana have done more than just maintain fish and wildlife. For instance, individuals who may criticize the department's Yellowstone River reservation request should realize this request is only a portion of the stream flow which has historically passed down that river system. They should be aware that reducing the stream flow for a long time (for whatever use) may not allow such functions as adequate transportation of sediment down that river system. If sediment isn't transported properly, physical changes in the stream channel could affect diversions for irrigation, domestic and industrial use. Changes in fish habitat and adjacent island and shore habitat (such as island goose nesting sites) could also be affected.

Present agricultural water users in the Yellowstone Basin should realize future water withdrawals could increase water salinity and the difficulty of getting water into existing irrigation structures. If large amounts of water are withdrawn for irrigation, the combination of evaporation from the soil and use of water by growing plants could increase the salinity of return flows into the river and its tributaries. This could make the water undesirable for further agricultural use, as well as for fish and wildlife.

Only limited information is available to predict potential sediment transport and salinity problems

in the Yellowstone system. However, it is quite possible that Yellowstone River water will be divided (much of it for eventual withdrawal) with an unsatisfactory understanding of the long-term effects on the historical functions of the river. Montana citizens should be aware of the implications of not maintaining this free-flowing river's integrity. One astute engineer to the Trent River Board in England once observed that what they were trying to do by maintaining "minimum" flows in rivers was to "safeguard the rivers of this country, and to make sure that they were not going to be spoilt—because there were some spoilt rivers" (from "Minimum Acceptable Flow," by A. G. Boulton, *Institution of Water Engineers Journal*, Vol. 19, No. 1, pp. 15-58, 1965). Flow reservations, once obtained, will help the department prevent "spoilt rivers."

In the long run, man's philosophy toward rivers will determine their fate and that of all creatures who use them. Gordon Brittan, a rancher/teacher and philosopher who lives in the Yellowstone Basin, summed up how attitudes toward rivers and river basins must change. Our attitude toward rivers should "imply a certain amount of reverence and awe," he said at a Water Workshop sponsored by the Institute of the Rockies at Montana State University in March 1976. "Our overbearing technology has allowed us to treat our rivers casually. We are now only beginning to realize the consequence of such arrogance. We must realize that the river basins make demands too, that we fail to meet at our peril."

Chief Seattle, leader of the Suquamish tribe in the Washington Territory, said in the late 1880s, "The rivers are our brothers, they quench our thirst. The rivers carry our canoes and feed our children. If we sell you our land, you must remember, and teach your children, that the rivers are our brothers, and yours, and you must henceforth give the rivers the kindness you would give any brother."

Although Montana's new water law is a giant step forward in water administration, that law has yet to benefit fish and wildlife. Permits for water diversions continue to be routinely granted. To date, considerations to prevent destruction of aquatic habitat have not been included with those permits and only a few have been denied outright. Those denials came not because of concern for fish, wildlife or recreation. Fish and wildlife are not yet equal competitors with diversionary users of Montana's water. This problem must be resolved either through changes in the current law or in the courts. An upcoming test of the water reservations authority in the new water law will occur in early 1977 when the Board of Natural Resources and Conservation makes a decision on water reservation requests which have recently been submitted in the Yellowstone Basin, one of which is the Dept. of Fish and Game's instream flow request.

Deliberations on the future use of Montana's water resources must involve a conscientious effort by decision makers to understand the complexities of river systems and the importance of maintaining the integrity of our natural streams. 🐾

UPDATE

FLATHEAD LEASES POSTPONED

Leasing federal oil and gas in the Flathead National Forest has been curtailed for at least a year. The House Appropriations Committee unanimously approved an amendment to the \$6 billion Dept. of the Interior budget that cuts off money the department would have spent in issuing oil and gas leases. Rep. Max Baucus (D-Mont.) introduced the amendment.

Baucus said the action was necessary because the interior dept. refused to postpone oil and gas leasing, even though negotiations with Canada on the Cabin Creek issue are not complete. (Cabin Creek is the site of proposed Canadian coal mining, which could pollute water and otherwise affect the Flathead drainage in Montana.)

"There are other places to explore for gas and oil until we've made certain that the Flathead has been protected from coal mining in Canada," Baucus said.

The Bureau of Land Management, the interior dept. agency which administers the leases, will be restricted

from leasing oil and gas within the Flathead National Forest until October. If the Cabin Creek issue is not solved by then (and it's likely it won't be for years), Baucus aides say the spending restriction could be extended.

Meanwhile, an attorney for the Flathead Coalition, a citizens' group organized to monitor development in the Flathead River drainage, is appealing that the Forest Service reconsider lease applications already made by Texas Pacific Oil Co., Inc., of Canada.

MISSOURI AND FLATHEAD: FREE AT LAST

At last, Montana's historic section of the Missouri River, from Fort Benton downstream to the Fred Robinson Bridge (U.S. 191), is free.

In October, President Gerald Ford signed a bill to include this 149-mile stretch of the Missouri and 219 miles of the three forks of the Flathead River in the national Wild and Scenic Rivers System. The legislation will protect: (1) the North Fork of the Flathead from the Canadian border south to its confluence with the Mid-

dle Fork, (2) the Middle Fork from its headwaters along the Continental Divide to its confluence with the South Fork near the town of Hungry Horse and (3) the South Fork from its origin in the Bob Marshall Wilderness to Hungry Horse Reservoir.

The designated areas of both rivers will be managed in a free-flowing state, the Missouri by the Bureau of Land Management (BLM) and the Flathead by the Forest Service (FS).

Sen. Lee Metcalf (D-Mont.) worked for more than six years to preserve this section of the Missouri, which is fished by about 3,000 anglers each year and hunted each season by more than 2,000 sportsmen attracted by elk, deer, bighorn sheep, ducks, geese and upland game birds.

The legislation means no dams may be built on the protected waters and no commercial development will be allowed on designated areas around them. However, the bill specifically authorizes construction of the Winifred Bridge on Highway 236 near the mouth of the Judith River. Also, water may be pumped from this area of the Missouri for agriculture and recreation. Private landowners can continue farming, grazing, residential and other uses of the area as long as the area remains substantially unaltered.

Rep. Max Baucus (D-Mont.) has worked for more than a year to include the three forks of the Flathead in the Wild and Scenic Rivers System, partly to discourage a Canadian company from strip mining along Cabin Creek, a Flathead tributary eight miles north of the U.S.-Canada border.

BLM and FS officials have until October 1977 to develop management plans for the rivers. A BLM official said the agencies would begin seeking public opinion for the plans in January.

ELKHORNS RECEIVE TWO-YEAR REPRIEVE

Following protest by 13 national, state and regional citizens' groups, the Elkhorn Mountains have a two-year reprieve from development that could ruin the area's wilderness characteristics and adversely affect wildlife habitat.

Rep. John Melcher (D-Mont.) introduced the area as part of the Omnibus Wilderness Bill, which became law in October. The bill included 26 other areas in the nation.

Sen. Lee Metcalf (D-Mont.) originally included the Elkhorns, situated



graphics: Vern Craig

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south of Helena between Townsend and Boulder, in his Montana Wilderness Study Omnibus Bill, S393. Even though this legislation was pending in the last session of Congress, the Forest Service (FS) was planning extensive logging, road building and campground development within 77,346 acres of essentially roadless area in the heart of the mountain range.

Realizing that Metcalf's bill was not going to be passed before Congress adjourned, the 13 groups filed an administrative appeal asking the FS to reconsider its decision to develop the area, particularly its proposal to extend the Crow Creek Road from the southeast into the Tizer Basin for logging. Helena National Forest Supervisor Jim Jordan stopped planning for the Elkhorns until he could respond to their complaints.

The protestors charged that the FS violated the National Environmental Policy Act by planning the road without first alerting the public. That issue has not been settled.

Opposition to the FS planning was overwhelming. In response, Melcher's House Interior Subcommittee on Public Lands conducted a public meeting in Helena Sept. 6 to hear testimony on development planned in the Helena National Forest. The controversy centered on the Elkhorn plan, which calls for multiple-use development of 30,000 acres of previously roadless land.

Timber industry supporters said that closing the Elkhorns to logging could hurt their businesses. Conservationists maintained that permitting the FS to go ahead with its plans in the Helena National Forest would jeopardize not only the Elkhorns, but also the other nine roadless areas that

would be examined under Metcalf's bill. At the congressional hearing, Wes Woodgerd, director of the Montana Dept. of Fish and Game, said the plans would be detrimental to wildlife.

After the hearing, Melcher went to Washington, deleted the Elkhorns from Metcalf's bill and inserted the wild area into the other omnibus bill, which was certain to be approved before Congress adjourned.

Conservationists warn that congressional acceptance of the Elkhorns as a wilderness study area is only a partial victory. The nine other areas proposed for wilderness under Metcalf's legislation are still threatened, since it's apparent the FS will continue to plan and develop these areas even though congressional action is pending.

Metcalf's bill died in committee. Even though he promised to reintroduce the bill, citizens must be the watchdogs to protect these areas until Congress has had time to act.

SKI YELLOWSTONE GETS GREEN LIGHT

In its preliminary environmental impact statement released in September, the Forest Service (FS) recommended that Ski Yellowstone, Inc., be permitted to build recreation facilities on Mount Hebgen, near West Yellowstone, Mont.

Before developers can begin construction, a final environmental impact statement (EIS) must be written and a master plan for the area must be submitted to the FS for approval. As part of the review before the final EIS, the FS conducted hearings in West Yellowstone and Bozeman and accepted written public comment un-

til Nov. 21.

According to the FS, Ski Yellowstone would offer at least three major benefits: recreation for many people, additional money for Gallatin County and facilities to make the area more suitable for year-round use.

FS officials and the developers insist these benefits justify the adverse impact of Ski Yellowstone on wildlife and the environment. Among the 21 undesirable effects mentioned in the report are the following:

- eventual need for additional services by local, state and federal agencies, which will cost taxpayers more money;
- damaging impact on nearby critical grizzly habitat;
- reduction of the native elk population, since the resort will interfere with calving and wintering;
- elimination of a small native moose herd, and
- increased pollution of Hebgen Lake.

If Ski Yellowstone is successful, the FS said, the benefits of the resort will outweigh the adverse effects. The report acknowledges it is difficult to predict whether Ski Yellowstone will be an economic success. However, it also says that three other large developments—Grand Targhee, Idaho; Jackson Hole, Wyo., and Big Sky, Mont.—lie within a four-hour drive of the Mount Hebgen area. None of these existing facilities is operating at capacity.

Nonetheless, the FS is betting that Ski Yellowstone will prosper.

NATIONAL NONGAME LEGISLATION COMING

Nongame fish and wildlife, long neglected by wildlife managers, will receive the attention—and the money—they need if the Federal Aid in Nongame Fish and Wildlife Act passes.

The bill, which will likely be introduced into Congress in 1977, would place a tax on recreational items such as camping equipment, binoculars, bird houses and other goods used by persons who benefit from nongame wildlife but don't hunt or fish.

The bill is similar to the Dingell-Johnson and Pittman-Robertson acts which place taxes on fishing and hunting gear. (The Dingell-Johnson Act placed a 10% tax on fishing tackle and the Pittman-Robertson Act set an 11% tax on sporting arms and ammunition.) Because most of this money comes from hunters and fishermen, it goes primarily for managing game fish and wildlife.

The nongame bill would tax outdoor recreational gear at 5% and recreational vehicles and small boats at 1%. State agencies (e.g., the Dept. of Fish and Game) would submit plans for nongame management programs to the Dept. of the Interior. If approved, the federal government would pay for 75% of the program from the fund created by these recreational equipment taxes. The states would have to come up with the remaining 25% from their own sources.

The money would be distributed in

amounts proportional to state size and population: one-third by the state's size and two-thirds by its population. However, no state would receive under $\frac{1}{2}$ of 1% or over 5% of the fund. Washington, D.C. and Puerto Rico would each receive $\frac{1}{2}$ of 1% and American Samoa, the Virgin Islands and the Trust Territory of the Pacific Islands would each receive one-sixth of 1%.

The bill also would require federal agencies to cooperate with the states in establishing and maintaining

programs for conservation of nongame wildlife. Federal agencies with land trusteeships would have to review their programs and provide for the conservation of nongame animals, make habitat improvements and provide educational and recreational programs to foster greater appreciation of nongame species.

Hopefully, outdoor recreationists and the industries involved will back this bill. Those who benefit from nongame wildlife should also support it.



photo Harry Engels

Wildlife Is At Stake

Jim Posewitz' sensitive and probing editorial on sage grouse and coal stripping (July/August 1976) is indeed a depressing commentary on the inexorability of "progress" and the power of "Big Money."

I grew up in that beautiful part of Montana which encompasses the world of the sage grouse, sharp-tailed grouse . . . and coal. I've watched these sage hens and "chickens," as we called them, dancing and strutting during the dawn hours in springtime. It's one of those intangible threads that link mankind today with the antiquity of the world's creation. It's a small thing, perhaps, in the world of dollars, pounds, yen and rubles—merely one of those fringe benefits embodied in the quotation, "Man does not live by bread alone." Maybe man does not need music, either; or poetry, or art, or solitude, or whales or dolphins. Maybe *energy* is the beginning and end of everything. That way, everyone can have his own personal air conditioner, color TV and other push-button wonders. And we can build more factories for building more autos, jet airplanes and other technological "wonders" that are now smothering and enslaving us. And we can have more subdivisions sprawled over critical wildlife habitat, more recreational complexes, more condominiums and more of the so-called "good life" in general.

Anyway, I expect we all know what the choice will be. Knowing what happened to the great auk, the heath hen, the ivory-billed woodpecker, the passenger pigeon, the vast herds of buffalo and what now looks like extinction of the great blue whale, I don't expect a fighting majority of Americans to be sufficiently outraged by the probable extinction of the sage grouse.

But, speaking of the passenger pigeon, I just received a booklet from the U.S. Dept. of the Interior titled, "A Passing in Cincinnati, Sept. 1, 1914," chronicling the extinction of the last passenger pigeons. Here are a few sordid paragraphs that should make

civilized man ashamed of himself:

"Man's sins against Passenger Pigeons are among his most unforgivable transgressions. Even near their end, they were not allowed to raise their young.

"Invading pigeon nestings, trappers caused the loss of thousands of small birds and unhatched eggs. Older pigeons were netted continually. One authority estimated that at least 12 million brooding pigeons were killed between 1866 and 1876, which meant another six million young were doomed to die.

"Schorger in 'The Passenger Pigeon' wrote: 'Destruction of the young at the nestings near Sparta and Kilbourn, Wisconsin, in 1882 was fearful; and it began before they were ready for the table. Squabs were a glut on the market in Milwaukee, where the retail price ranged during the season from 35 cents to \$1 per dozen...' Thousands were buried due to spoilage near Kilbourn and several tons were thrown into the Wisconsin River for the same reason.

"The Milwaukee Sentinel on March 15, 1883, said: 'The wholesale slaughter of these birds at their nesting place in Monroe County last spring when not half grown, and even before they were feathered, was disgracefully notorious. . . One man shipped over 2 million of these birds out of the county.' The Sentinel added that the ground was covered with the carcasses of young pigeons too small for shipment."

I could go on quoting the sordid and unbelievable methods used to capture the passenger pigeon commercially, both for the table and for trapshooting purposes, but everyone should read the booklet himself in its entirety. It can be ordered from the Office of Communications, Dept. of the Interior; Washington, D.C. 20240. Price is 65 cents.

My purpose in all of the foregoing is to indicate that the sage hen will probably go the way of the passenger pigeon. I don't think mankind has changed all that much from the ex-

ploiter and opportunist that he was in the 1800s. True, more of us realize the terrible truth that *once a species is extinct, it is extinct forever*. But, after all, when money talks everyone must perforce listen.

By the way, let's have some more of those hard-hitting articles such as "Weep for the Roche Jaune" (July/August 1974), "The Subdividers are Coming" (Jan./Feb. 1974), "Montana Coal—Our No. 1 Environmental Issue" (Jan./Feb. 1973) and predator poisoning, especially the "kill everything" boys and their 1080. The airing of industry's/utilities' linen in a publication of the stature and credence of *Montana Outdoors* is a salutary duty because wildlife habitat—and thus wildlife itself—is at stake. And that's what *Montana Outdoors* is all about.—Peyton Moncure; Missoula, Mont.

PRACTICAL, PRAGMATIC APPROACH TO GRIZZLIES

I read with appreciation in your July/August 1976 issue the editorial by Steve Jessen, "What Good is a Grizzly?"

For some years, the grizzly bear has been a major subject of reporting and photography in our papers, notably the Hungry Horse News and Kalispell Journal.

It appears to me the problem has become serious, especially since the U.S. Endangered Species Act, Sept. 1, 1975, lists the grizzly as a "threatened" species with penalties about as severe as manslaughter.

H. Frank Evans of Polebridge, Mont., in his article in the Aug. 12, 1976 issue of Hungry Horse News states the situation with great sympathy for the grizzly bear. He says, in part: "This vanishing species needs more friends and understanding than enemies and misunderstandings. It would appear that because of this action of transplanting a proven troublesome grizzly, there will be further erosion in the animal's wild

POLICY ON LETTERS

We welcome comments from readers. However, we will, at times, be forced to cut down lengthy letters because of space limitations. We appreciate hearing from you, but if you want us to print your letter, please keep it brief. The opinions expressed in the "Dear F&G" section do not necessarily reflect those of the Montana Dept. of Fish and Game. They represent the author's views only.

status; its popularity and misunderstanding has been fostered. And the North Fork, treasured for its wild character, will be a little less wild. That's the way it always is.

"It is now a federal offense to kill a grizzly, but still unanswered is the question: 'Do property owners have the right to protect their property?' and 'Just where does one draw the line between protecting property and protecting life?'"

This expresses my views on the matter exactly. This foolish over-protection of the grizzly will be its downfall in the longer run.

Authorities estimate there are about 200 grizzly and 400 or 500 black bears in Glacier National Park. To me, that sounds like more grizzlies than the relatively small park can carry. A bear can't live off glaciers. Whenever bears get out of the park, they should be treated the same as a marauding dog or human that attacks man or destroys property.

However, I believe people should follow the rules in respect to barricading cabins, disposal of garbage, etc.

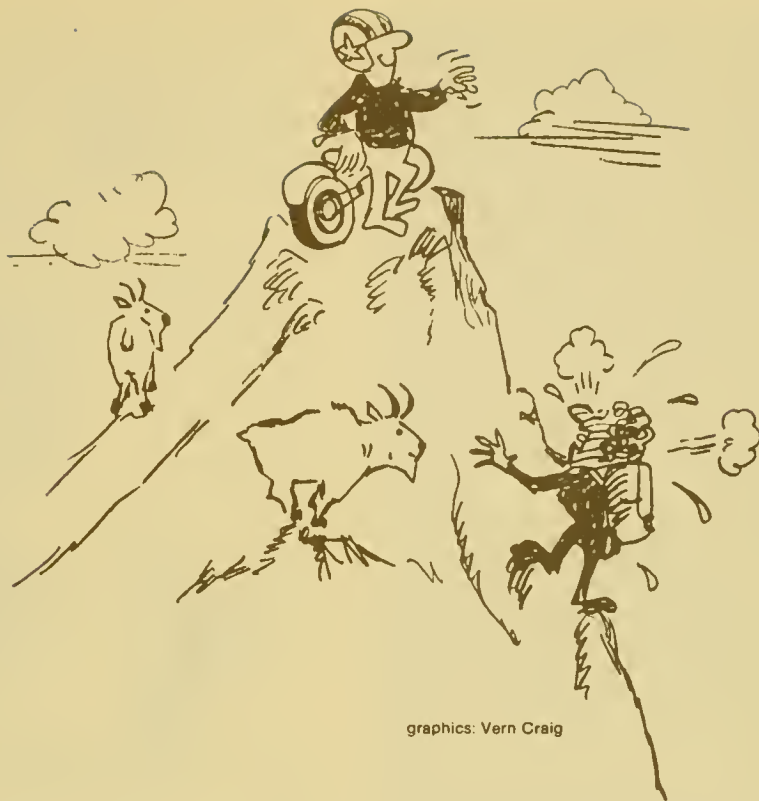
I wonder if these protectionists back east or in California, etc. would like a good planting of grizzly bears in the Adirondacks and mountains of Vermont, Maine or in the Smoky Mountains? Or in Yosemite?

I might add that I have ridden and camped in Glacier and camped and hunted in the South and Middle forks of the Flathead River almost every year since 1919. I am the last person in the world who would like to see the grizzly exterminated. My few encounters with them remain as highlights of those trips.

But there comes a time when one must be a bit practical and pragmatic. As the people are flooding into our Flathead Valley and into our state, we are bound to lose our western way of life as time races on and population increases.—*Forrest C. Rockwood; Kalispell, Mont.*

A QUIET, PERSISTENT WIND

For three hours we panted, sweated, laughed, groaned and finally made it to the top of Hollow Top Mountain in the Tobacco Roots of Beaverhead National Forest. It was hazy, probably from all the big fires in Idaho, but visibility was still good. All around us big, beautiful mountains and that quiet persistent wind and a few calls from some lone mountain jay. We lay in the sun for a while and began to think we were indeed in paradise, when the distant whine of



graphics: Vern Craig

motorbikes filtered up from Hollow Top and Albro Lake basins. We tried to block it, but the sight of two motorbikes actually driving up Potosi Peak was too much for us. It gagged our senses. All our incentive to climb Potosi Peak left us and we high-tailed it over to Jefferson Mountain and then to Horse Mountain and then back to Hollow Top Lake.

While on the peaks, we saw roads into beautiful mountain basins, roads everywhere and on every road some kind of rig or another. U.S.G.S. maps are deceiving, as any active backpacker or sportsperson knows. Places that don't even show trails now have jeep roads, laced throughout with trail bikes and 4-wheel drives screaming up and down.

And where's all the game? Not on or around Potosi Peak, that's for sure. Perhaps there just isn't any anymore, to speak of. But it's still okay to build more roads and more trails which eventually turn into roads. And it's still okay for the motorcyclists to pollute the high country with their presence because who cares about the game, the peace and solitude or plain reverence for the mountains and our last remaining high country? And last but not least, who cares about those who like to "hoof it" back into the mountains to enjoy what is quickly disappearing forever? Your local motorcycle club certainly doesn't give a hoot.

So where do we stand, backpackers and sportspersons? We stand to lose and we are lost if we don't start to move like that quiet, but very persistent, wind on the peaks. It tends to pick up speed and strength with more volume.—*Joy Lewis; Basin, Mont.*

HUNTERS NEED BETTER ARGUMENTS

I have just finished reading J. T. Maxwell II's letter in your July/August magazine and would like to reply to some of his points.

He states, correctly, that when the white man came he immediately began to kill the predator animals that were his competition for the game animals. In those days, there was some excuse for this, since people actually needed game in order to survive. What Mr. Maxwell neglects to mention is that we still kill predators in order to have game for sport hunting. This is known as "varmint" hunting, with the season continually open on such animals as the fox, bobcat, lynx, coyote and wolf (as in Alaska recently), for no other reason than they kill for food the game sportsmen want to kill for sport.

Just recently the Montana Dept. of Fish and Game doubled its predator control budget. Why does it even have a predator control budget except to destroy the hunters' competition? When accused of having given in to

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stockmen's threats, the department replied that it was protecting hunters' rights too, because any coyote that could kill a ewe could kill a deer. Mr. Maxwell, wouldn't that coyote also be saving the deer from that horrible death by starvation? Only the coyote would be killing whatever it could get, not an easy job. The hunter would try for a deer in good flesh, probably an animal that could have survived the winter. It seems to me the hunter's argument that he helps save animals from a lingering death by starvation by harvesting wildlife would sound more convincing if he stopped destroying the balance of nature by the wanton destruction of our beautiful and highly intelligent predators.

Killing a wild creature—that has to survive a difficult life by itself, with no help from anyone—is not the same as slaughtering a domestic animal that probably would not even exist if not especially bred, fed, doctored and cared for by man all of its life for the sole purpose of supplying us with food.

If hunters want to defend their sport, they will have to come up with some better arguments. Most of us aren't quite as dumb as you would like to think.—*Eva Wall; East Glacier Park, Mont.*

"ONE MORES" ADD UP TO ZERO

I have been keeping informed on the increasing abuse of Montana's natural resources since I hope to work as a big game biologist for the Montana Dept. of Fish and Game. It saddens me that a state with such an abundance of natural wonders is taken for granted by its citizens. Because I am a nonresident of your state, I believe I have an even better perspective as to what is taking place.

I come from a state with natural resources that cannot even begin to compare with Montana's. When I observe a state such as yours with a great abundance of resources—a lot of which are being ripped off—I can't help but think the citizens of Montana are taking their land and heritage for granted. A state with glistening mountains; cool, clear trout streams, vast forest lands and a great variety of wildlife is something its citizens should fight to preserve. Your reasoning that one more forest clearcut or strip mine won't hurt as "we have a big state" just doesn't bear out the facts. The fact is that those "one mores" add up and the sum you get is zero natural resources.

One thing that is a real concern to



graphics: Vern Craig

me is the plight of the grizzly bear. I wonder about the reasoning used by people who want to kill all grizzly bears because they say the bears are of no benefit. What authority gives them the right to dictate what should be considered beneficial and allowed to live? I don't think God put the grizzly bear on the earth to be killed off. This would be inconsistent with His teachings.

As far as grizzly bears being a safety hazard, I would like to point out that drunk drivers have killed more innocent men, women and children in one year than the grizzly bear has in fifty years. Why aren't these safety-minded citizens calling for closing all bars? The fatality record would seem to justify closing all bars before it would justify killing all grizzly bears. Maybe we should follow some of their questionable reasoning and kill all drunk drivers. Beside, what contributions do drunk drivers make toward our well-being? None that I know of.

The point I am making is that the coexistence of man and grizzly bear must be solved by using sound logic, not emotional hysteria.

The great outdoors with its majestic splendor and wildlife is far too valuable a treasure to lose. I hope the citizens of Montana will call a halt to

the plunder of their land before it is too late and everybody says to themselves, "What happened to our state? It was so nice at one time."—*Bob Whittenberg; Wichita, Kan.*

HOW SWEET IT IS!

How sweet it is! I refer to reading "The Great Container Controversy" in your July/August 1976 issue. My office has as one of its tasks dispensing information on our Oregon bottle bill. Most of the time we have to clear up misinformation such as that recently disseminated by Alcoa in an aluminum trade pamphlet. Consequently, when we come upon an article such as the one in your magazine, it gives us great pleasure. Well-researched, thorough, accurate discussions on the returnable beverage container are the best way to combat the wealth of inaccurate propaganda on the subject.

Do you plan to have any reprints of the article? It would be a handy comprehensive information piece to send in answer to inquiries we receive.—*Jane Cease, public information representative, Dept. of Environmental Quality, Recycling Information Office; Portland, Ore.*

• We have not prepared reprints of this article. However, extra copies of that issue are available.—Ed.

KEEP MONTANA WELL

Your state and magazine are both great. Continue to do everything possible to protect Montana. Don't let it become sick like the East. — *Glenn A. Wershing; Newton, N.J.*

FISHERMEN AND ACCESS

Having just returned from an extended fishing trip to Montana, I read with interest the article on "Recreational Access on the Yellowstone River" (Catchall, July/August 1976).

When growing up in Red Lodge, Mont., we had a wonderful fishing stream available flowing right through the village. Most of our fishing was done from Red Lodge north to Roberts, a distance of 12 miles. This is truly a good trout stream and the best part—it was available to us youngsters without transportation. Many times, when the fishing was good, we would find ourselves 10 miles downstream, having a good time and not worrying a bit about the walk back.

So, I was truly happy, when driving by the stream this last August, to see the fishing accesses provided by the state. I hadn't fished this area for over 20 years, but I remembered the first access north of Red Lodge had been very good. I parked in the access area and decided to go upstream. The first hole I fished, I caught several nice browns on a Joe's Hopper fly. I thought to myself, "This is like the good old days."

I hadn't gone but a short distance when I was met by another fisher-

man. I was brought back to reality in a hurry when he informed me I was trespassing. I told him that I had been wading in the stream, that I had crossed no fences and as I had come in on an access area, I didn't think I was trespassing. He informed me that he owned the land under the water so I was trespassing.

In other words, all state and federal funds and my contributions go to these landowners for their private fishing waters. This brings up the point: What good are these access points to the general public if they are encircled by these private landowners?

I believe it is time for legislation to declare all fishing waters open to the public to the high water line or just close them to all fishing.

If Rock Creek is an example of what is happening all over this country, I'm happy I grew up when I did and wasn't deprived of my rights.—*John Lawrin; Las Vegas, Nev.*

CONSUMERS MUST MAKE RATIONAL DECISIONS

My congratulations for your article, "A Day at Decker" (Sept./Oct. 1976). Finally someone wrote a story to tell it as it really is. Having been involved with reclamation for many years, I've seen too many misinformed and false statements made about mining and mine reclamation.

As the writer pointed out, reclamation is becoming an integral part of mining. This is not only because of recent reclamation regulations, but also because the mining companies

are realizing the potential surface resource values after mining is completed. In fact, mine reclamation work dates back to the early 1900s—long before any legislation. Of course there are many problems with reclamation and we have yet to solve all of them. Part of this problem stems from the fact that each mining site has unique environmental constraints. Problems with low rainfall and sodium soils vary tremendously from one mine to another. A reclamation technique that looks successful at one mine may prove to be a total failure at another. So the work continues at each mine site to find practical and better techniques to reclaim the disturbed land.

As America grows and prospers, we will demand ever increasing supplies of natural resources, including minerals. If mining is taxed or regulated out of the market (as a lot of eastern coal mining has been), we may become dependent upon imported sources of raw materials. This will put us at a very serious economic disadvantage (witness the recent oil crisis). America needs her mineral resources as much as she so desperately needs a quality environment. We can have both if we manage our resources rationally. Is it rational to preserve an acre of land valued at say, \$1,000, and forego the underlying mineral resources valued at \$499,800? By the same token, is it rational to gobble up \$500,000 worth of coal to produce energy for the production of electric toothbrushes, electric hair dryers, etc.? We, as citizens and consumers, have the sole responsibility for our future and uses of our resources. It's up to us to make rational, sound, practical decisions.

Thank you for this opportunity to comment and keep up the good (unbiased, unprejudiced) reporting of environmental concerns. We need more informative articles that tell the facts without emotionalism, so that we can make the decisions.—*Stuart Bengson; Tucson, Ariz.*

SCARS REMAIN FOREVER

I have been meaning to write to you for some time to say how much we all enjoy your magazine. We have 20 members in the Women's Institute and the magazine does the rounds, the husbands all being very interested, especially in the superb photography. I must admit to being selfish by insisting that all the copies are eventually returned to me so that I may keep them.

The May 1976 issue of the *National Geographic* contained an article about Montana. Having read in your



graphics Vern Craig

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magazine about the problems you are facing in conserving the beauty of the state, the further information learned from the *National Geographic* made me even more sympathetic to your cause.

Here in Great Britain, the coal industry is rapidly dying and many of the valleys in South Wales are being landscaped. However, many scars will forever remain. We have the new problem of oil development. The tiny, quiet village in Scotland where we spend our holidays has gone forever. A few miles away a base to build oil rigs is being built. The damage I would say is irreparable. Roads and ancient bridges built for a quieter age are damaged beyond repair. We realize that it is good for the local inhabitants to have employment at hand. There is prosperity in an area where there has been none. But the cost is inestimable and conservation is still a dirty word.

What will happen when the rigs are built and gone? The countryside will never be as it was. We admire your fight and applaud you for it. Please keep it up.—*Elaine Johnson; Bristol, England*

GO MONTHLY

I am enjoying your magazine more than I had hoped. I cannot understand the subscriber who could not stomach the publication because it was too pro-environmental. To say that he *loves* Montana only shows that he has no conception of what love is all about.

My only complaint is the eight-week wait between editions. When are you going to go monthly?—*Larry Middagh; Missoula, Mont.*

KEEP MONTANA WILD

My husband and I really enjoy our copies of your magazine. After visiting Montana, the articles in it mean so much more to us. We have visited Glacier and Yellowstone National parks. We thought the scenery most beautiful at Glacier, but we saw more wild animals at Yellowstone.

We enjoyed seeing so many wildflowers, lakes, rivers, mountains as well as the wild animals in Montana. Also, I enjoyed the fishing.

Our son and his family live in Great Falls. Please keep up the good work of trying to keep Montana wild and beautiful. Our grandchildren like it that way as much as we do.

It is refreshing to see and read good, decent material. The magazine makes a wonderful gift.—*John and Virginia Brady; Toronto, Ohio*



In the last 25 years, western states have pulled out all stops to control undesirable plants. Most people call such undesirable plants "weeds." But what is a weed to one person might well provide food and shelter for wildlife. As Noel Rosetta points out, there's no question that present weed laws are outmoded, that they harm beneficial vegetation, waste tax dollars and may even harm human health. Turn to "The Weed Control Follies" on page 2. Now retired, Rosetta worked for the Forest Service for 15 years as an assistant ranger, ranger and assistant staff officer. He also spent nine years with the Bureau of Land Management working on range surveys and administration and watershed management. He earned a B.A. degree in range management from Colorado A & M and continues to do consulting work related to land management, range analysis and range ecology for private parties, conservation groups and government agencies. *Montana Outdoors* extends special thanks to Mr. Rosetta for his perceptive article.

If you think "The Land and Water Conservation Fund" is just another federal program with miles and miles of red tape, you're wrong. As Ron Aasheim points out in his article on page 19, these dollars are available to and meant for the benefit of all Montanans. In the fund's 11-year history, Montana has received nearly \$15 million. Because the funds are matched, that means over \$30 million has been spent on planning, acquisition and development of public outdoor recreation areas and facilities. The Bureau of Outdoor Recreation project coordinator for the department, Aasheim holds a B.S. in recreation area management and an M.S. in soils, both from Montana State University, Bozeman. He is a member of the Montana Recreation and Parks Assn.

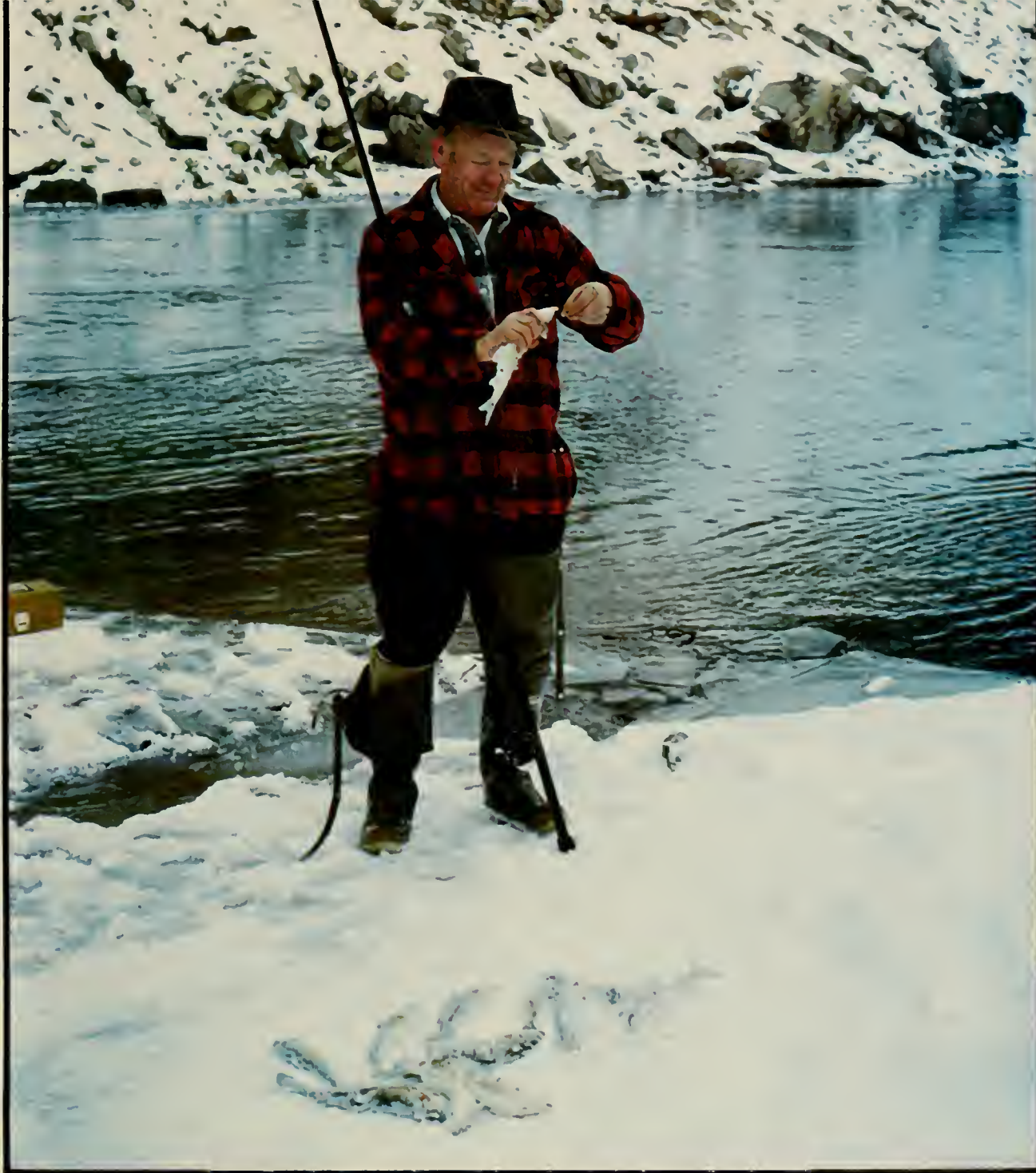
Montana's new water law has been on the books for three years. Liter Spence examines if it has been working effectively for fish and wildlife. He concludes that fish, wildlife and recreation are still taking a back seat to long-established water uses such as irrigation and industrial utilization. Despite the act's "glowing words," not much has been done to maintain

the integrity of Montana's natural streams. Turn to "Montana's New Water Law" on page 22. The water resources supervisor for the department, Spence holds a B.S. in zoology from the University of Idaho, Moscow, and an M.S. in wildlife conservation from the University of Wyoming, Laramie.

Many Montana trout fishermen turn up their noses at the mere mention of the whitefish. But in states where the wily trout is absent, whitefish are sought after and, indeed, they are "A Worthwhile Adversary." Plus, they provide year-round sport and their edibility qualities are high—especially smoked. Robert Rothweiler tells potential fishermen where the whitefish hang out and how to go about getting them. The information officer for the Missoula region, Rothweiler has served in that same capacity in Miles City and Bozeman. He holds a B.S. degree in wildlife technology from the University of Montana, Missoula, and an M.S. in fish and wildlife management from MSU. Turn to page 35 for his article.

Rugged, secret waterfalls, weathered peaks, canyons, glaciated valleys, uncluttered, quiet. It's hard to believe that 80 square miles of such a country lies within four miles of the city limits of one of the more rapidly growing urban centers in the northern Rockies. Yet the description aptly fits the Rattlesnake near Missoula, Mont. But unlike many such areas, citizens, federal agencies and other groups are working together—and there's "A Chance for Everybody to Win." For a closer look at the stakes, turn to Don Schwennesen's article on page 38. When he's not covering environmental topics and other assignments for the Missoulian, Schwennesen is an avid skier, hunter and maker of homemade wine. He holds a B.S. in interdepartmental science from Trinity College in Hartford, Conn. and has completed course work for the M.A. in journalism from UM.

Contrary to what most people think, pollution regulations don't result in fewer jobs. Instead of ruining business, environmental regulations ultimately increase the number of persons employed. Glenn Oakley notes that some industries may suffer initially, but the overall effect is positive. Turn to page 44 for his article, "Environmental Blackmail." MO's summer intern, Oakley has returned to UM where he is a senior in journalism.



The whitefish—a tremendous fishing opportunity which is ignored—or at least downplayed—by many anglers. photo: Jon Cates

The Whitefish: **A Worthwhile Adversary**

by Robert Rothweiler

Most Montana fishermen prefer trout—they go for the native cutthroat, colorful rainbow, elusive brown, prolific brook, or just for “trout.” They tend to overlook mountain whitefish. But if whitefish

have a failing, it's that they're simply too abundant and too easy to catch.

Whitefish thrive in most streams in western Montana and fishermen can creel 20 per day in some regions and up to 30 in others. They have another advantage over trout: Generally, trout seasons open in May and close in November. In these same streams, whitefish can tantalize anglers from May through March—nearly year-round.

Most fishermen easily recognize the slender bodies of whitefish. Although they are closely related to trout, they have larger scales and possess an adipose fin (a small, fleshy fin behind the dorsal fin). In spite of fishermen claiming that whitefish are "too bony for eating," their skeletal systems resemble those of trout.

The table fare qualities of whitefish have been downgraded by many Montana anglers. But in 1960, a panel of judges in the Home Economics Dept. at Montana State University in Bozeman compared the "eating" qualities of trout and mountain whitefish. Both species were prepared in the same way. The panel rated whitefish just as highly as trout. (This writer recommends skinning your whitefish before cooking them.) Generally, most fishermen have their mountain whitefish smoked—and they don't need a panel of experts to tell them what's good eating. These anglers have discovered that smoked whitefish accompanied by a jug of a suitable beverage provide a pleasant surprise for the palate. Most cities and towns have commercial processing plants or private parties who will smoke fish. (For some other hints, see the accompanying recipe.)

Most anglers are now ready for the next question: "Where are the whitefish and how do I catch them?"

Mountain whitefish (*Prosopium williamsoni*) are found only in the lakes and streams of western North America. They thrive in cold water streams and lakes on both sides of the Continental Divide, from northern Canada south to the headwaters of the Colorado River. In Montana, they occur in the three major stream systems that drain the western half of the state. They are most abundant in larger rivers and lower portions of tributary streams and are found less often in headwater streams.

(1) Missouri River drainage—The mountain whitefish is common in the Missouri River between Three Forks and Toston, abundant between Toston and Great Falls and has been reported as far downstream as the mouth of the Marias River. It inhabits most tributary streams of the Missouri River. Creel census records show whitefish from the Musselshell River upstream from Harlowton and in the upper reaches of the Judith River. They are common in the Marias, Teton, Sun, Smith and Dearborn rivers and in Belt Creek. They also frequently inhabit the Gallatin, Big Hole, Ruby and Beaverhead rivers and are abundant in the Madison and Jefferson rivers. Mountain whitefish are plentiful in that segment of the Yellowstone River

between Gardiner and Columbus and they may be taken as far downstream as Laurel. They also occur in the Shields, Boulder and Stillwater rivers, Sweetgrass Creek and the Clark's Fork of the Yellowstone.

(2) Saskatchewan drainage—The St. Mary River contains abundant whitefish but few fishermen try their luck on the short stretch of this river within Montana.

(3) Columbia drainage—The Kootenai River and its tributaries contain moderate numbers of whitefish, but fishing pressure is negligible. Whitefish are common in the Clark Fork River above Drummond and abundant from there to the Idaho border. They are also plentiful in the Thompson River drainage, but few fishermen go for them in these streams. They inhabit the Flathead drainage mostly in the Flathead River and Flathead Lake. The heaviest fishing pressure in the drainage occurs in the Bitterroot and Blackfoot rivers and Rock Creek, all in the Missoula area.

Whitefish feed on a wide variety of aquatic organisms. They may feed either on a lake or stream bottom or rise to take flies on the surface. A hatch of small insects stimulates a school of whitefish to feed simultaneously with a series of rapid and numerous rises to the surface.

Whitefish school—in streams, they congregate where fast water runs into moving water along the shore and at the end of rapids or riffles. Look for larger fish in deeper water.

Most anglers seek out whitefish in winter. Frigid water temperatures don't affect their feeding habits—they actively feed while other fish, including trout, become somewhat dormant. This is important to fishermen because they can use a variety of fishing techniques and baits with varying success.

Generally, fishermen choose smaller equipment because they mistakenly believe that whitefish don't attain much size. The largest known mountain whitefish—4 lbs., 7 ozs.—was taken in British Columbia. The Montana record, taken in the Clark Fork River, is a close 4 lbs., 2½ ozs. Most anglers will find their catch ranges from 1-2 pounds. Many fishermen also select smaller hooks because they think whitefish have small mouths. But their mouths are small only when compared with those of trout. Whitefish take any size lure you might use for trout—in many cases, to the annoyance of the trout fisherman.

Weather and water conditions and other factors dictate the type of equipment the angler should use. Many fishermen continue to use fly fishing equipment as long as the water remains open. Whitefish take dry flies, nymphs and small streamers as readily as trout and all are effective in open water.

But most whitefish are hooked on bait. They will go after worms, maggots and hellgrammites (stonefly nymphs). Maggots are housefly larvae obtained from carrion. While they have a particularly un-

savory appearance, they seem to be a special treat for whitefish.

A common rig includes a spinning outfit with a small sinker on the end of a six- or eight-pound test monofilament line. Set a float on the line equal to the depth of the water. Knot a dropper line with one or two hooks to the line near the sinker and bait it. Then cast the bait upstream and allow it to drift down through a pool in the bottom.

In subzero temperatures, fly rods or spinning rigs are difficult to use because ice forms in the line guides and makes casting difficult and sometimes impossible. As an alternative, you might try a long cane pole or one of the newer fiberglass rods available in lengths up to 20 feet. If the water is still open and running, a longer pole enables a fisherman to reach out over shore ice and protects him from wading in the chilly water. They also feature large line guides that don't ice over. Rig these long poles like spinning equipment: Tie a hook to the end of heavy monofilament line and attach sinkers on the line above the hook. If a second hook is used, attach it to a dropper line 6-12 inches above the sinker. Set a small float on the line approximately the depth of the water. By doing this, you can keep your hooks close to the stream bottom without snagging.

Whitefish take a hook gently. Most fishermen won't notice such a small slack in the line so the small float helps in recognizing these strikes.

For fishing through the ice, all that's needed is a short pole about 36 inches long with large line guides and some provision for holding extra line. Choose a line heavy enough to resist cutting by jagged ice and to hold the weight of the fish as they are taken from the water. Keep comfort and convenience in mind when you assemble your whitefish equipment—remember, it's cold out there on that ice.

Like cutthroat trout and grayling, mountain whitefish are native to Montana. In their journals, Meriwether Lewis and William Clark (Aug. 19, 1805) described a bottlenose fish in the upper Missouri which may have been a mountain whitefish. The mountain whitefish was later reported in tributaries of the upper Missouri River in 1876. As Montana developed, changes in stream conditions, water quality and quantity affected these native species. Unlike cutthroat and grayling, whitefish have thrived even under difficult circumstances.

But there's no doubt that development near streams has affected whitefish. As private concerns divert and dewater streams for irrigation and other uses, the water level obviously decreases and the water temperature rises. Whitefish are highly susceptible to high water temperatures and die-offs have occurred recently in streams where water has been removed. This should signal various resource agencies that water conditions are not all they should be. In this respect, the mountain whitefish is a reliable environmental indicator.

Even so, whitefish haven't shared the trout's

popularity. But as fishing pressures increase within the state, whitefish will probably become more important. George Grant, editor of *The River Rat*, adequately summed up this situation when he wrote, the whitefish is "held in low esteem by some and in utter contempt by others." He went on to say in the bimonthly publication of the Montana Council of Trout Unlimited, "its worst offense is being present in the same water frequented by large trout that offer the angler a greater challenge. If this same whitefish were prevalent in many of the trout-scarce states, it would be acclaimed as a game fish worthy of the attention of the skilled angler just as the pan fish varieties have been elevated to a lofty position in those areas where bass are not plentiful."

Grant continued, "The fish suffers because of direct comparison. An angler having just taken a 15-inch rainbow or brown will not be greatly impressed by the lesser resistance or drab coloration of a whitefish taken immediately thereafter. However, if he had employed light tackle and fished exclusively for whitefish . . . he would find this fish in weights of one pound or more to be a worthwhile adversary."

That's good enough for me.

After a successful day of fishing for whitefish, you might want to try the following recipe, taken from "Savoring the Wild," a *Montana Outdoors* special publication.

PICKLED WHITEFISH

40 whitefish
1 quart very hot water
2 c salt
2 quarts white vinegar (not less than 5% acidity)
onions, thinly sliced

Clean and scale the fish; cut off all fins and the tail. Cut into 1-½-inch chunks. Make a brine of the water and salt; let cool. Add the vinegar and pour over the fish, completely covering them. Let set 4-5 days. Pour off the brine and rinse with water. Pack the fish in glass jars, tightly, with a layer of fish alternating with a layer of thinly sliced onions.

1 quart white vinegar
2 c sugar
2 T salt
1 T pickling spice
3 cloves of garlic

Mix the above ingredients; bring to a boil. Boil 5 minutes; let cool. Pour over fish, completely covering them. Let set for at least 5 days; 2 weeks is better. The fish will keep from 6 months to a year in the refrigerator. Eat them as they are or add sour cream and serve over boiled potatoes. To store, use plastic wrap and a rubber band. A metal cover will rust.—
Loren Netzloff; Eureka, Mont. 🐟

The Rattlesnake:

A Chance For Everybody To Win

by Don Schwennesen

Montana still holds many nameless places—mountain peaks, potholes, canyons, springs, even entire mountain ranges. One of the most surprising is a rare and remarkable resource that sits on Missoula's doorstep.

The resource is a rugged, 80-square-mile land of deep glaciated valleys; old weathered peaks that soar to 8,000 feet; of lakes uncluttered by shore line roads, summer homes and power lines; of hanging valleys and secret waterfalls. It lies within four miles of the city limits of one of the more rapidly growing urban centers in the northern Rockies. Residential neighborhoods march up to its boundary.

Yet, it has not been subdivided, even though half of it is in private ownership. Only one old dirt road traverses it, a road that peters out into a handful of old trails and short spurs—many of which have become so overgrown that they are reduced to narrow tracks. No automobiles and only occasional maintenance trucks drive the old road. The area is closed, except to hikers, horseback riders, cross-country skiers, motorcyclists and snowmobilers.

Even the streams are closed to fishing, although the lakes are open. Streams in the Rattlesnake watershed are used for part of Missoula's municipal water supply. The lakes that aren't barren because of winter freeze-out yield good catches of pan-sized trout to the relatively few who seek them out.

What name does it have, this rugged country that hides like a lost jewel from the young city spread at its feet?

Some call it the southern end of the Mission Mountain Range. Yet, it stands distinct from the Missions, formed of ancient many-colored shales and mudstones laid down on the bottom of some shallow, prehistoric sea long before the planet held any life. Geologists say these mountains were transformed by intense heat and pressure deep within the earth. Then they moved, some 20 miles, literally shoved aside by the titanic granite batholith that rose up beneath the earth's mantle to form the Selway-Bitterroot Wilderness.

Others call it the Stuart Peak or the Sheep Mountain backcountry, although whatever sheep that once roamed are gone. Some call it the Missoula

Mountain Range or the Hellgate Range—after the Hellgate Canyon on the Clark Fork River—the “Port d’Enfer” where Blackfoot war parties once waited in ambush for travelers following the river.

Most people call it the Rattlesnake Creek country or the Rattlesnake Mountain Range, or simply the Rattlesnake. The name is that of the principal creek that winds down from the 27 lakes dotting the cirques and hanging valleys of the Rattlesnake high country.

The name itself is an enigma, for there are probably few rattlesnakes in the Rattlesnake area. The first two within recent memory turned up in the summer of 1975, in a suburban Missoula back yard not far from the creek. They startled the neighborhood and brought well-known western novelist and nearby resident, Dorothy Johnson, hurrying to the scene packing her trusty six gun. The reptiles were rounded up and removed to more suitable habitat.

Only one Missoula resident, writer/historian Al Partoll, claims to know why “In-tlah-e-eitz-chis-tum”—the stream of the little bull trout—suddenly became Rattlesnake Creek on the maps of the white man in 1860. And Partoll won't tell.

Today the future of the Rattlesnake country is clouded by as many puzzles and unknowns as have shadowed its past.

For decades, the Rattlesnake has been a municipal watershed, furnishing pure mountain water to the urban mains and lines of the Montana Power Co. (MPC). But Missoula has already grown big enough to drink two Rattlesnake Creeks dry. More than half the urban water supply already comes from underground wells and MPC is readying new wells to replace the watershed completely. The transition to well water is hastened by new clean water standards that would force the utility to filter out traces of sediment that turn the creek waters murky during spring run-off.

Wells are cheaper than adding a new filtering plant to an antiquated waterworks. So, the

The Rattlesnake—over 50,000 acres of wild land virtually in the back yard of one of Montana's largest cities. photo: Harley Het-tick



Rattlesnake Creek watershed is no longer needed to quench a city's thirst, clean its dirty laundry and water its gardens.

Should the land be left as it is—a pristine source of pure mountain drinking water that has accidentally become a near-wilderness playground for the city at its threshold? Or should it be put to use to profit man by delivering a large mix of goods and services: timber, hydropower, resorts, residential and recreational development, pleasure boating, pleasure driving for motorists and perhaps some wilderness on the rocks in the more inaccessible high mountains?

Fortunately, these questions don't need to be resolved overnight. A future management plan for the Rattlesnake will be developed jointly by the Forest Service (FS), MPC, Bureau of Outdoor Recreation and other private landowners and citizens who take the trouble to become involved in the planning process for public lands.

The plan is probably some two years from completion. Under terms of a joint agreement reached in mid-1976, both the FS and MPC have agreed not to alter their present management policies until the new plan is finished.

The Missoula Ranger District of Lolo National Forest is the agency writing the plan. Until now, principal planning responsibility has fallen to Kent

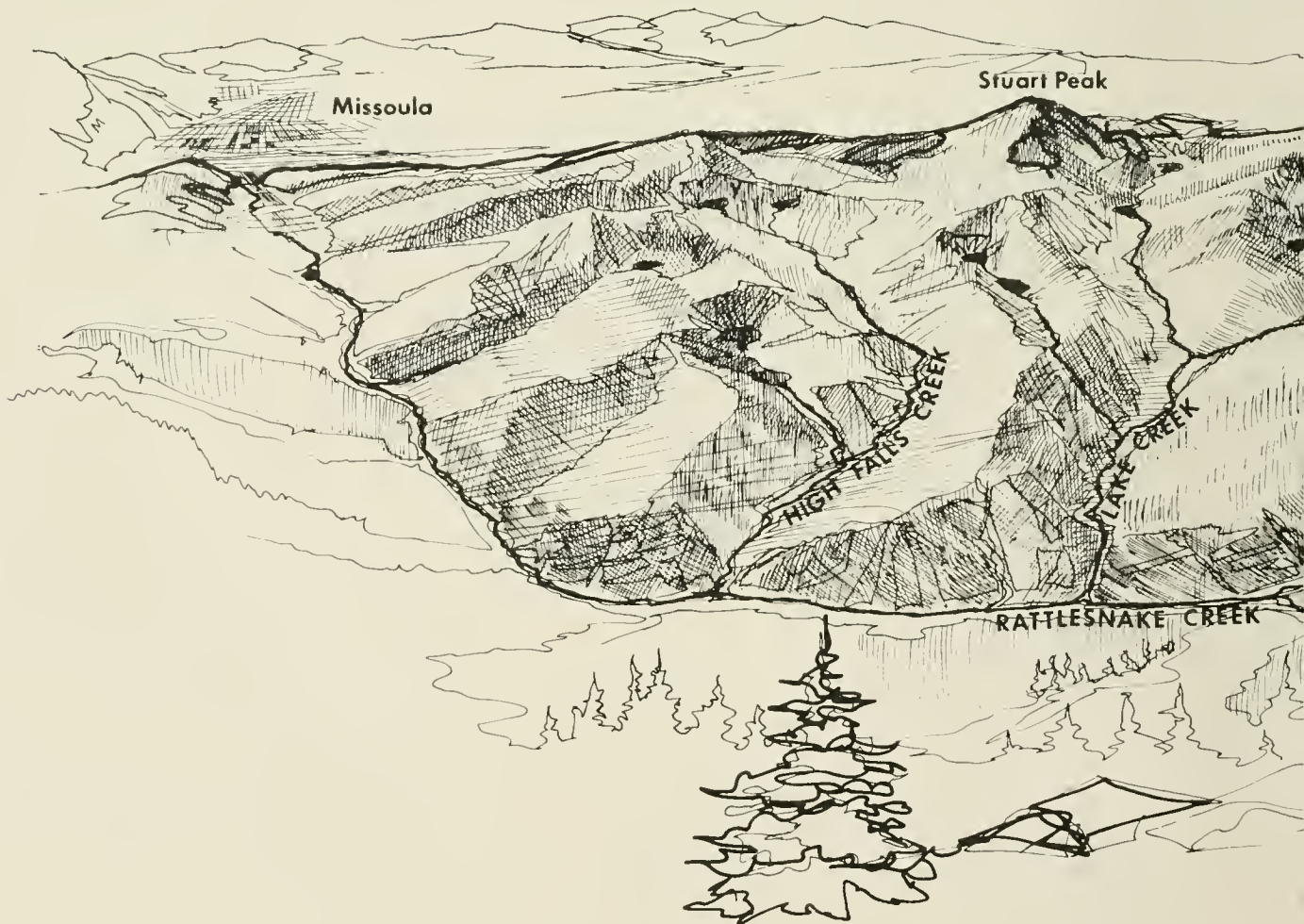
Nelson, a planner who has won the confidence and respect of a wide range of groups in his previous work.

Nelson played a key role in planning the lower half of Rock Creek, western Montana's celebrated blue ribbon trout stream. Because planning for Rock Creek was so controversial, it was scrutinized monthly for three years by a federally commissioned Rock Creek Citizen Advisory Committee made up of representatives from a host of conservation, sportsmen, industry and other public and private interest groups.

At Rock Creek, citizens and public land managers agreed that water quality would be the overriding consideration. Ranchers, loggers, miners, sportsmen, environmentalists—all agreed that no development that threatened to degrade the creek would be permitted in the watershed.

Nelson thinks the same type of guiding principle might lend itself to the Rattlesnake Creek planning process. "Water quality and quantity are primary considerations," he said in an interview early in 1976, at a time when the Missoula Ranger District was hoping to wrap up most resource inventory work during the summer and move into public planning meetings on the Rattlesnake by fall.

But the planning timetable for the Rattlesnake has already been pushed back a year because of other



crucial but less visible considerations: time and money.

The Rattlesnake, once envisioned as a separate planning unit in its own right, will now be planned along with a huge area east and southeast of Missoula where past large-scale clearcuts, suburban development and heavy recreational and vehicle use pose major problems considerably different from those north of the city.

Nelson now thinks it will be late summer or early fall of 1977 before the FS will have a set of tentative planning alternatives ready for public review. "Because of prior commitments on other planning units . . . it's just going to be a while," he said in October 1976.

Already some citizens are concerned that the Rattlesnake might not receive the careful planning they think it warrants.

Friends of the Rattlesnake (FOR), a citizens' group formed nearly three years ago, is moving to raise \$12,000 from a variety of sources to fund 12 months of research in areas the FS might be unable to cover in depth.

The University of Montana School of Forestry is also assisting in ways that will benefit both students and the public. Through the forestry school's Wilderness Institute, Dr. Jim Lowe, associate professor of forestry, is offering an advanced course

in which students will receive first-hand experience in the kind of planning inventory work done by professional land managers in the field. The class project is the Rattlesnake.

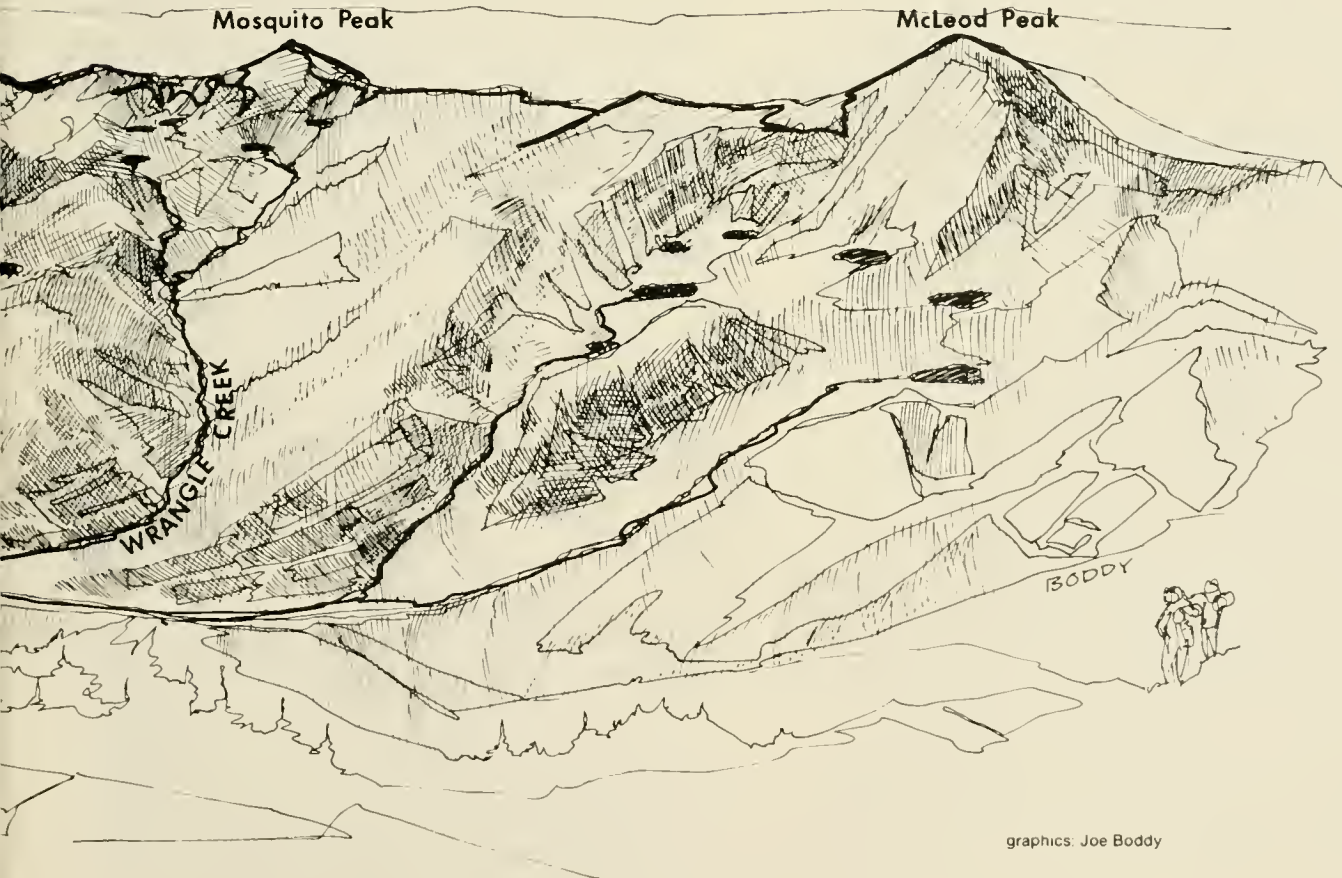
The Wilderness Institute also plans to study the Rattlesnake as a major project this summer. Much of the Rattlesnake is roadless and a potential wilderness study area was identified in the remote northern end of the watershed during the FS' Roadless Area Review and Evaluation (RARE) program of the early 1970s.

Only about one-fifth of the roadless areas inventoried by the FS were isolated for immediate study. The rest were left for evaluation during the normal FS planning process.

RARE No. 204 is a 59,000-acre roadless region encompassing nearly four-fifths of the Rattlesnake and spilling over to include another 20,000 acres in the Grant Creek Basin to the west, the Flathead Indian Reservation to the north and the Gold Creek watershed to the east.

Like most FS plans already completed, the Gold Creek plan rejected any wilderness management and earmarked two-thirds of Gold Creek's 14,000 roadless acres for future commodity production. But the balance of RARE No. 204 will be evaluated during the Rattlesnake planning process.

Planning information is also coming to the FS



graphics: Joe Boddy

from MPC, which has turned over a wealth of data amassed during a year-long internal study of the utility's 21,000 acres of Rattlesnake watershed land. The utility holdings, acquired more than four decades ago, amount to about 41% of the watershed.

"Most of the watershed is checkerboarded" by utility and FS land holdings, "both entities having somewhat different interests," observes MPC Planner Pat Reardon.

The intermingled ownership pattern is a legacy of the early railroad construction days, when railroads were granted every other one-square-mile section of land within a certain distance of the rail right-of-way, as an incentive to build railroads.

Montana Power acquired railroad holdings in the Rattlesnake and the company also purchased old homesteads in the valley bottoms near Missoula during the 1930s.

"People outside the Missoula area really don't know about the Rattlesnake and so aren't too concerned or interested in it," Reardon notes. But for area residents, the Rattlesnake is both a watershed and an important recreational area rapidly growing in popularity. "It is a unique area," says Reardon. "All things considered, it could be typical of an area that could be used for the amenity type experiences that people talk about."

In studying the Rattlesnake for MPC, Reardon found that recreational users now put in about 20,000 visitor days per year in the watershed. (As a comparison, Bannack—Montana's first territorial capital and now a ghost town—received about 30,000 visitor days of recreational use in 1976.) One Labor Day, Reardon counted 100 motorcycles entering the watershed through the gateway that marks the boundary between the subdivisions of the lower creek valley and the backcountry of the upper valley. Hunters, fishermen, backpackers, snowmobilers, equestrians and cross-country skiers are among the major visitors. Jogging and bicycling are also gaining in popularity. Most of the recreationists never leave the valley bottoms owned by Montana Power. "We've got a multiple-use situation in there right now," says Reardon, to describe the company's present land management policy.

Water, recreation and wildlife are the main resource values of the Rattlesnake today. "We don't have any authorized grazing," Reardon said, because "grazing would be in conflict with water generation" for municipal consumption. "We haven't cut any timber in there for about 12 years." MPC did some logging through a private contractor in the late 1950s and early 1960s, but good initial results gave way to bad ones as the contractor ran into the problem of spruce blowing down at higher elevations.

The result was some large clearcuts where new tree growth has been slow to take hold and where slash and downed timber still pose a fire hazard today. No more logging has been authorized by the company.

Despite past experiences, Reardon thinks careful

logging could be resumed without damaging the watershed. "There certainly isn't any intent to do that," he said, but "if you don't harvest the trees they die to natural factors. . . . Those trees have burned historically. So then we have to answer the question of what do we do with them when they're dead."

Increasing visitor use means increased fire danger, but it also means increased littering, trail and campsite damage, vandalism and what are euphemistically termed "user conflicts."

In 1970, littering and abuse caused MPC to close the watershed to all 4-wheel motor vehicles except watershed maintenance trucks. The FS has upheld and cooperated in the closure.

The federal agency does its best to listen to all sides when user conflicts develop. But from a management standpoint, many foresters now point out that a thoughtless motorized recreationist can do much more damage than a thoughtless person on foot, simply because the motorized person has far more power at his disposal.

MPC and the FS have already agreed to impose new restrictions that will limit the number of trails open to cyclists in the Rattlesnake beginning this year. The new strictures are to reduce trail erosion and to help minimize visitor conflicts by separating motorized and nonmotorized visitors.

Despite conflicts, there is growing sentiment in Missoula that the Rattlesnake Creek watershed ought to be preserved for the future in something approximating its present condition. Part of the new conservation spirit comes from a growing realization in Missoula that past development has seriously encroached upon key winter ranges that support rich and diverse wildlife.

Three major elk herds inhabit the Rattlesnake and adjoining basins. In winter, a sizable population of mule deer uses Strawberry Ridge, a long spur of Stuart Peak that extends to the very edge of the Missoula urban area. A short distance across the Rattlesnake Valley from Strawberry Ridge, an elk herd estimated at about 60 head winters within sight of Elk Ridge homes that have encroached on its range.

Local residents turned out in force to oppose another small subdivision proposed in the area and reviewed recently at a public hearing before the Missoula Planning Board. Several acknowledged that their own homes were poorly situated and they urged local officials not to repeat mistakes of the past.

Although county officials approved the small, five-lot subdivision (overruling a planning board recommendation that it be rejected), they placed tight restrictions on the developer. And the project is likely to be the last of its kind in the area. But in the Grant Creek Valley west of the Rattlesnake, one potential subdivision could put 200 new single and multi-family dwellings in the valley meadows and on adjacent hillsides. Local fish and game officials fear such development could seriously threaten winter range for one of the three Rattlesnake elk herds.

A new 1975 state planning law (HB666) requires county commissioners to evaluate eight key factors—including impacts on resources and wildlife—and to publish written findings showing why any new subdivision they approve is in the public interest. The law focuses new attention on diminishing resource lands such as key wildlife winter range, forcing citizens on a local level to become aware of the process by which piecemeal land use decisions gradually erode major public resources.

The Missoula County commissioners also proposed—and suburban Rattlesnake Valley residents accepted—a sweeping new zoning plan that will cluster future residential developments on available lands in the valley bottom. One objective of the zoning plan is to keep subdivisions out of the remaining wildlife and resource lands surrounding the lower Rattlesnake Creek Valley.

A benefactor of the new zoning plan could be MPC, which still owns substantial undeveloped acreage in the suburban valley bottom. The zoning permits low-density residential development on lands outside the municipal watershed and it leaves the door open for higher density use under a “planned unit development” approach.

Although many issues remain to be resolved, those working to preserve the Rattlesnake are beginning to express cautious optimism. “Things are really coming alive,” says Dr. Arnold Bolle, acting academic vice president of UM and a board member of FOR. “Communication seems to be open,” adds Joe Mussulman, president of FOR. “We seem to have the confidence of the Forest Service and Montana Power. The board of directors has agreed that our first objective is simply to preserve the area . . . to prevent any exploitation in the worst sense of the word,” he said. “One of the challenges to us” is to “keep the interest in the area sustained.”

Part of the new interest and enthusiasm has been sparked by the fact that The Nature Conservancy, a national private trust fund dedicated to acquiring and preserving key tracts of resource land, has begun taking an active interest in the Rattlesnake. The group has made headlines twice in Montana in recent months, acquiring major acreage in the Crazy Mountains from a Colorado development firm and then purchasing the vast Mount Haggin Ranch outside Anaconda. (The Crazy Mountains purchase has been resold to the FS at cost and the FS and Dept. of Fish and Game jointly purchased the Mount Haggin Ranch.)

Nearly two years ago, the conservancy came into the Rattlesnake in a small way, picking up a few acres of creek frontage near Missoula city limits—land that will find its way into the urban park system under the auspices of Missoula’s Five Valley River Parks Assn., a citizens’ group.

Since, FOR has brought the entire Rattlesnake watershed to the attention of Ken Margolis, Pacific Northwest regional representative for the conservancy. “I’d been underrating the area,” Margolis confessed in a recent interview. “Actually, it’s a pretty valuable roadless area.” Margolis calls FOR “the

kind of local group we like to work with. They live there and have an interest in the area. We’re looked on as carpetbaggers sometimes,” he explained, unless local citizens have invited the conservancy to help in a project that has local support.

Margolis has met with Montana Power executives and is trying to interest them in a possible plan under which the utility would donate its Rattlesnake watershed holdings to the public, retaining control of water rights, but receiving substantial tax benefits from the land donation. “I think Montana Power is really in a position to make kind of a magnanimous gift to the people of Montana,” he said. “We’ve got a real chance for an ‘everybody wins’ type of situation. If they want to listen, we can make a financially sound proposition,” Margolis said.

Cass Chinske, planning director for Friends of the Rattlesnake, reflects the kind of enthusiasm that has drawn 180 families into the organization and turned it into a growing conservation force. “We can live in the city and work here and watch it grow,” he said, “and we have an opportunity to walk out into a semi-wilderness area in the evening after work. This must be one of the only places in the country where you can do that. We’ve got wildlife up there you wouldn’t believe,” said Chinske, who has personally led dozens of Missoula residents on weekend hikes and backpacks into the Rattlesnake—and who himself has sighted mountain lions and even a rare wolf in the area.

“We’ve got everything—even grizzly,” he said, referring to a grizzly sighting in 1975 by Lowe. “There used to be an abundant goat population that would come back,” he added. “There are still a few goats up there.”

Chinske has also found archaeological artifacts and even an Indian vision quest site and he points out that the upper Rattlesnake held deep spiritual significance to the Indians. The northern end of the watershed is still considered sacred ground.

Like almost everyone else with an interest in the Rattlesnake, Chinske has his own ideas about how the area should best be managed. He would like to see “a backcountry area—something in between a wilderness area and a national park.” But he says the important thing is to make certain the area is properly studied and planned so that professional managers can do what is best for the resource and those who use it.

“If we don’t save this, we’re not going to save anything else in this [Missoula] Valley,” he said. “I’m getting excited about it, because I think we’re going to make it—I really do.”

Another Missoula resident who will be watching the Rattlesnake planning process is Rep. Max Baucus (D-Mont.) who owns a home in the lower valley and who is concerned about the future integrity of the watershed.

As with other planning projects, the Missoula Ranger District is encouraging public involvement in development of the “Rattlesnake Creek-Miller Peak Unit Plan.” “All comments will be greatly appreciated,” said Nelson. 🐾

ENVIRONMENTAL BLACKMAIL

by Glenn Oakley

Loss of jobs because of pollution regulations, perhaps the greatest block to the environmental movement, is a myth. Environmental protection creates jobs.

The Council on Environmental Quality (CEQ) found that while some industries suffer initially, the effect of environmental regulation as a whole "is positive—more people are employed as the result of environmental programs." The CEQ claims 17,600 jobs were lost in 1976 when plants closed or slowed down for environmental reasons. But, at the same time, pollution control created 400,000 jobs—a net gain of 382,400 positions.

Factory closings are often cited as an example of the harm environmental action causes. Yet, the Dept. of Commerce in a recent study of industry found that only 2% of the firms studied had reduced their plant and equipment expenditures because of pollution control regulations. Furthermore, according to Russell Train, administrator of the Environmental Protection Agency (EPA), the plants that closed were "small, old and marginal plants whose demise may have been hastened slightly by pollution standards but which probably would have been closed soon anyway for economic reasons."

While a small portion of taxes is spent on pollution control, every billion dollars spent by the federal government for pollution abatement creates 66,900 jobs, according to 1970 figures by the U.S. Bureau of Labor Statistics.

Ironically, it is often the very businesses that blast environmentalists for stifling employment that choose the least labor intensive method of production. Colstrip #3 and #4 is a prime example: proponents opting to burn the coal in Montana and send the electricity via transmission lines, creating 95 full-time jobs. But, according to a Dept. of Natural Resources and Conservation impact statement, if the coal were shipped by railroad to where it is needed, 246 full-time jobs would be created. In addition to a net gain of 151 railroad jobs, railroad shipment would negate any need for the twin 500-kilovolt transmission lines, which would stretch 426 miles from Colstrip to Hot Springs, Mont., taking up 14,000 acres of land. It also should be recognized that the jobs created in ultimately converting coal to electricity would still occur near the land center, urban areas with high unemployment levels. Exporting the coal



to where it is needed rather than burning it in Montana would help keep the skies of the northern Great Plains clean and clear while helping the unemployment situation at the same time.

Strip mine reclamation, CEQ reports, requires at least one man per every fifty acres reclaimed. The CEQ said "the greatest employment effect would be in the economically depressed Appalachian region."

Yet, during these inflationary times, environmental protection is viewed by many as a luxury the nation cannot afford. But it is environmental degradation the nation cannot afford, not only aesthetically, but also economically. Nationwide, air pollution causes \$20 billion of damage each year to health, property, materials and vegetation, according to the EPA. But no price tag can be placed on a person's health.

Developments that destroy wildlife habitat and/or pollute air and water are generally poorly planned operations, getting by with the least amount of effort and workers. Ecologically sound operations require more time, more care and more workers. An example is Montana's Stream Preservation Act which (with a recent expanding amendment) prohibits state agencies and private individuals from starting any construction or hydraulic project that would harm a stream without approval from the Dept. of Fish and Game. As a result, roads might be a little less direct and more bridges might have to be constructed. But increased care in building roads and additional bridges lessens stream damage and, in turn, erosion and siltation problems. Admittedly, roads now cost more, but this expense provides extra jobs as well as protecting Montana's streams.

An EPA study shows that compliance with federal pollution standards will add about \$2.80 to a consumer's average electric bill and one cent per gallon to gasoline. The increase in oil costs is expected to decrease the demand for oil, resulting in loss of about 1,000 conventional jobs in the petroleum industry. More than enough to offset these losses, however, is the predicted gain of 14,000 jobs to operate and

maintain pollution control equipment.

The "bottle bill," which would ban throwaway, nonreturnable beverage containers, is also charged with putting people out of work. It does. But at the same time, it creates more jobs than it abolishes. According to a study, "The Economic Impact of Oregon's Bottle Bill," by researchers at Oregon State University, 350 jobs were lost throughout the beverage industry following passage of container legislation in Oregon. However, 140 truck driving jobs, plus 575 warehousing and handling jobs were created—a net gain of 365 full-time jobs and an increased payroll of \$1.6 million.

If a similar bill were implemented in New York state, it would result in a net gain of 4,007 jobs and save consumers \$40 million as a result of lowered production costs, according to former Oregon Gov. Tom McCall. In addition, he said, "a direct savings of \$2 million would result from elimination of the beverage container portion of litter in New York state." And not only would employment be bolstered, but energy and nonrenewable resources would be conserved and litter greatly reduced.

Other industries which would greatly benefit the environment and the economy are given pathetic, token support. Patrick Heffernan, writing in the April 1975 *Sierra Club Bulletin*, states that in 18 years (1956-74), taxpayers have spent \$275 billion on highway construction. Contrast this with the \$3.3 billion annually given to mass transit under the 1974 transit assistance bill. Bruce Hannon, at the Center for Advanced Computation at the University of Illinois, calculated that a shift of \$5 billion annually from the Highway Trust Fund to rail and mass transit construction would increase transportation-construction jobs by 3.2%.

Fred Dubin, representing the 3M Co. at a seminar on energy, jobs and conservation, said if the \$2 billion required to build a nuclear plant were spent on conservation measures, "that \$2 billion invested would provide two to three times as much savings in energy use as the new plant could provide." And this money, invested in conservation, he said, would result in 66,000 man-years of work (e.g., 66,000 jobs for one year, 33,000 jobs for two years, etc.), compared with 16,000 man-years needed to build a nuclear plant.

Dubin said, "Energy conservation, in addition to all its virtues, makes good business sense." One program at 3M—reconditioning equipment, decreasing unnecessary lighting and fans—he said "saved the equivalent of 16 million gallons of oil or \$4.5 million in energy costs." After paying taxes and business and shareholder costs, about \$1.2 million is available for reinvestment into the business. "That," Dubin said, "is where we create jobs."

The recycling of scrap metal is another industry which saves energy, money and resources as well as providing jobs. More than 70,000 persons are employed in the recycling industry, according to Alan Amper, head of Steelmet, Inc., a Pittsburgh-based recycling firm. He reported that "for every ton

of ferrous scrap used, we save one and a half tons of coal or coke. . . . Using scrap rather than primary materials, a steelmaker reduces energy requirements 74%, air pollution 86%, water pollution 76%, water use 40%, mining waste 97% and the use of virgin materials 90%." Recycling scrap metal also provides the incentive for removal of junked automobiles from the landscape.

Yet even with all these savings, only a small percentage of the available scrap is recycled. One of the problems hindering recycling scrap metal is discriminatory freight rates, designed years ago to stimulate raw ore production. Because of them, Amper claims recycled materials cost two to three times as much to ship as raw materials. Another snag is the shortage of gondola railroad cars in which scrap is shipped. Amper said the number has dropped by one-third in the last 10-12 years.

With a bit of imagination, many environmentally beneficial jobs can be created. *Environmental Action* reported that Floyd Smith, president of the International Assn. of Machinists and Aerospace Workers, suggested that the federal government start a program to equip every house in the U.S. with rooftop solar heaters.

Preposterous? Perhaps. But as Smith said, "While it might cost more than unemployment insurance, food stamps and welfare in the short run, it would save billions of dollars in the long run." Yet, many industries constantly oppose conservation measures, pitting environmentalists against consumers and workers. As Leonard Woodcock, president of the United Auto Workers said, "Philosophically, there is no reason to see any conflict between jobs and environmental protection." But, he notes, there does exist a "delicate relationship between working people and environmentalists. This is partly a legacy of years of environmental blackmail in which the major corporations have tried to hold workers, or at least their jobs, hostage against the application of environmental regulation."

At least one blackmail attempt failed. *Audubon* reported a GAF (General Aniline and Film Corp.) asbestos mining operation was going to fire 178 employees and shut down because the company claimed it could not comply with federal pollution regulations. The employees were shocked and angered, particularly John Lupian, former maintenance supervisor, who decided if the company couldn't run the operation, the workers could. The workers eventually drummed up enough money and credit to buy the company.

Audubon reported the company, with Lupian now chairman of the board, is making a healthy profit, has paid back all debts and investments and is complying fully with federal pollution regulations.

Environmental regulations will no more ruin business and employment than did the child labor law, the eight-hour day or the minimum wage. Employment can no longer be an excuse to destroy the environment. Beside, workers have to breathe, too. 🐾



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